

AP'S CANON EOS 70D HANDS-ON PREVIEW
ON-SENSOR AF SYSTEM – 1ST IMPRESSIONS



Saturday 27 July 2013

amateur photographer

THE WORLD'S NO.1 WEEKLY PHOTO MAGAZINE

www.amateurphotographer.co.uk

FILTERS FOR LANDSCAPES

Essential filters and how best to use them. Lee Frost explains



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APOY RESULTS



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INSPIRATIONAL WAYS TO SHOOT FLOWERS

Amateur Photographer of the Year: Round 5's 30 winning shots



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NO LOW-PASS FILTER

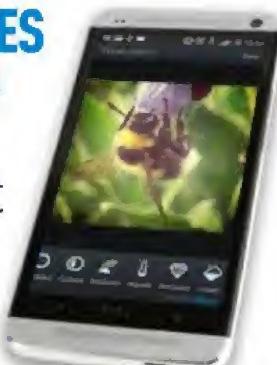
Does it really make a difference?
Full-frame resolution comparison

ON TEST

EDIT IMAGES ON THE GO

Six of the best and most useful photo-manipulation apps

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D5200

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At the heart of the image



Contents

Amateur Photographer For everyone who loves photography

THE IDEA of working without an anti-aliasing (AA) filter seems really quite appealing. When we buy cameras and lenses, and use shooting techniques, to achieve as much resolution as we can, avoiding a filter that effectively blurs our images seems like the perfect plan. I am a fan, myself, of the principle of gathering as much detail at the shooting stage as possible, and then deciding if it is all needed when processing the image. What I haven't captured can never be used, but not all of what I record has to feature in the final image.

It is important to remember, though, that an AA, or 'low pass', filter is there for a reason – namely to adapt passing light to suit the limitations of the

sensor. Without this control more detail can be recorded, but when the detail is greater than the ability of the sensor to record it, a visual disturbance occurs that can be far more noticeable than the reduced resolution of the camera that has a filter. So, a non-filter sensor may well produce images that are less usable than those of a 'limited' camera, depending on the subject. And until you get used to what works and what doesn't, you'll play Russian roulette every time you take a picture.



Damien Demolder
Editor

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An updated version of the original RX1, the RX1R has had the anti-aliasing filter removed from its 24.3-million-pixel, full-frame sensor. Richard Sibley finds out just how much difference this makes to image quality

60 ASK AP

Our experts answer your questions

THE AP READERS' POLL

IN AP 6 JULY WE ASKED...

Do you think the Leica M offers good value for money?



YOU ANSWERED...

- | Response | Percentage |
|--|------------|
| A Yes, it is excellent value | 8% |
| B Yes, but only just | 5% |
| C It costs a bit too much for what you get | 18% |
| D It is way overpriced | 58% |
| E I don't know | 11% |

THIS WEEK WE ASK...

Does the idea of using a non-AA-filter camera appeal to you?

VOTE ONLINE www.amateurphotographer.co.uk

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The Queen II album cover symbolises the Glam Rock era and is one of the most instantly recognisable music images. Mick Rocks tells David Clark the story behind it

HOW TO HAVE YOUR PICTURES PUBLISHED IN READER SPOTLIGHT Send in a selection of up to ten images. They can be either a selection of different images or all have the same theme. Digital files sent on CD should be saved in a Photoshop-compatible format, such as JPEG or TIFF, with a contact sheet and submission form. Visit www.amateurphotographer.co.uk/spotlight for details. We cannot publish images without the necessary technical details. Each RGB image should be a minimum of 2480 pixels along its longest length. Transparencies and prints are also accepted. We recommend that transparencies are sent without glass mounts and posted via Special Delivery. For transparencies, prints or discs to be returned you must include an SAE with sufficient postage.

HOW TO CONTACT US Amateur Photographer, IPC Media, Blue Fin Building, 110 Southwark Street, London SE1 0SU **AP Editorial Telephone:** 0203 148 4138 **Fax:** 0203 148 8123
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Sony Alpha Centres of Excellence

For expert advice on the latest technology, **Sony's Alpha Centre of Excellence** stores can provide the support and help you need

WITH a wide range of Sony cameras, the Sony Alpha Centres of Excellence are the best places to see the latest Cyber-shot, NEX or Alpha cameras. But the stores aren't just for buying kit.

Each of the 27 Centres has fully trained and knowledgeable staff, who are keen to pass on their knowledge to customers. And the support doesn't end once you've bought a camera – Sony Alpha Centres of Excellence will continue to be there to help you discover more about your camera and learn how to get the best from it.

In-store training and demonstration days allow photographers to try out the latest Sony cameras, with each event guided by one of Sony's team of expert photographers. Whether you need help deciding on a new lens, looking for an accessory, or simply want to find out how to use your flashgun, staff will be on hand to guide you.

Over the next few months, we'll be visiting some of the Centres of Excellence, speaking to the managers and customers about the stores, and finding out more about some of the events that will be taking place.

Find out more about what the Alpha Centres of Excellence have to offer by visiting your nearest store.



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Cardiff Camera Centre Cardiff
Cardiff Camera Centre Newport
Castle Cameras Bournemouth
Devon Camera Centre Exeter
Digital Depot Stevenage
Great Western Cameras Swindon
Harrison's Sheffield
London Camera Exchange Bristol (Horsefair)

London Camera Exchange London
London Camera Exchange Colchester
London Camera Exchange Leamington Spa
London Camera Exchange Manchester
London Camera Exchange Southampton High Street
Pantiles Cameras Tunbridge Wells
Park Cameras Burgess Hill
Warehouse Express Norwich
Wilkinson Cameras Preston

Wilkinson Cameras Southport
York Camera Mart York
UK Digital Ltd Clitheroe
Peter Rogers Stafford
Bass & Blyth Harrogate
Photo Express Ulverston
Carlisle Sony Centre Carlisle
TCR Sony Centre London

APNews

News | Analysis | Comment | PhotoDiary 27/7/13



We'll be looking for images that tell a story or capture a moment in time, in a way words sometimes cannot

Picture Editors' Guild Awards open, page 6



Metadata removal is 'civil infringement' • Copyright 'automatic'

GOVERNMENT RESPONDS TO COPYRIGHT FEARS

THE GOVERNMENT has responded to photographers' fears that images stripped of their metadata will leave them open to online copyright abuse under new laws.

Earlier this year, photographers including legend David Bailey blasted the Enterprise and Regulatory Reform Act's anticipated treatment of 'orphan works', where copyright owners cannot be identified or traced.

Campaigners voiced concern that any identifying metadata is often routinely removed before images are published.

They argued that the controversial law would permit such works to be used without their permission and without compensation for the rights holder.

Bailey blamed social media as largely responsible for routinely stripping names and contact details from digital files, fearing that commercial bodies would gain financially from these images, rather than the photographers who created them.

The issue sparked an e-petition against the new law, which has won more than 28,000 signatures and to which the Government has now responded.

On photographers' metadata fears, the Government stated: 'With regard to the removal of data about the ownership of copyrighted work (metadata), it is already a civil infringement under UK copyright law to knowingly and without authority strip metadata from a copyrighted work.'

'If the infringer communicates the work

to the public it may be a criminal offence. It may also be a criminal offence under the Fraud Act 2006 if the infringer claims to be the rights-holder.'

It adds: 'Any person wishing to use an orphan work will need to apply to the Government-appointed authorising body for a licence. As part of that process they must undertake a diligent search for the rights-holder, which will then be verified by the Government-appointed independent authorising body.'

The absence or removal of metadata does not in itself make a work "orphan" or allow its use under the orphan works scheme.

'Only once the diligent search for the rights-holder has been verified by the authorising body, and after the licence fee has been paid, will a licence to use the orphan work be issued.'

'Licences will be for specified purposes and subject to a licence fee, which is payable up-front at a rate appropriate to the type of work and type of use. The licence fee will then be held for the missing rights-holder to claim.'

'If the work is not genuinely orphan then the rights-holder should be found by the search. If the search is not properly diligent, no licence will be issued.'

In its response, the Government adds that 'copyright will continue to be automatic and there is no need to register a work in order for it to enjoy copyright protection.'



David Bailey was among those who spoke out against the new laws

SNAP SHOTS

● In our review of the Samyang T-S 24mm f/3.5 ED AS UMC in AP July 6, we mis-identified the UK distributor of the product. Samyang products are, in fact, distributed in this country by Intro 2020 Ltd, which is based on Priors Way, Maidenhead, Berkshire SL6 2HP. Tel: 01628 674 411. We apologise for any confusion or inconvenience caused by this error. More information about the Samyang T-S 24mm f/3.5 ED AS UMC, which is priced at £949, can be found at www.intro2020.co.uk.

● Some 3,700

unpublished photos of iconic star Marilyn Monroe are due to be sold at a Los Angeles auction on July 27. Shot by celebrity photographer Milton H Greene, the photos are part of a library of 75,000 negatives and slides that will be auctioned off by memorabilia specialist, Profiles in History. Visit www.profilesinhistory.com.



Do you have a story?

Contact Chris Cheeseman
Tel: 0203 148 4129
Fax: 0203 148 8130
amateurphotographer@informedia.com

DIGITAL CAMERA SALES SLUMP 16% IN MAY

THE UK photography market fell by almost 14% in May, but the drop is smaller than at any time so far this year – and online sales rose 12%.

The overall value of the photography sector dropped 13.7%, compared to the same month last year.

'All product categories within the photo sector declined month on month,' states GfK Retail Imaging UK in its latest market report.

'The biggest fallers in terms of value lost were digital cameras and memory cards,

which fell 16% and 14% respectively, compared to May last year.'

In April, however, UK sales dropped 18% and each of the previous three months saw a 21% decline.

The imaging market outperformed the rest of the consumer electronics sector, which dropped 16.8% in May.

Over the first five months of this year, UK photo sales declined 18.3% compared to January–May 2012.

Online photo sales rose 11.8% in May.



A week of photographic opportunity

PHOTODIARY

Wednesday 24 July

EXHIBITION Domus by Giorgio Casali, until 22 September at the Estorick Collection of Modern Italian Art, London N1 2AN. Tel: 0207 704 9522. Visit www.estorickcollection.com. **EXHIBITION** Short Breaths by Miles Aldridge, until 28 September at Brancolini Grimaldi, London W1S 4JJ. Tel: 0207 493 5721. Visit www.brancolinigrimaldi.com.

Thursday
25 July

EXHIBITION Prefabs – Palaces for the People by Elisabeth Blanchet, until 2 August at Photofusion, London SW9 8LA. Tel: 0207 738 5774. Visit www.photofusion.org.



EXHIBITION Jesse Alexander: The Golden Age of Motorsport, until 24 August at Chris Beetles Fine Photographs, London W1B 4DE. Tel: 0207 434 4319. Visit www.chrisbeetlesfinephotographs.com.

Friday 26 July

EXHIBITION Trailblazers by Anita Corbin, until 29 September at the Discovery Museum, Tyne & Wear NE1 4JA. Tel: 0191 232 6789. Visit www.twmuseums.org.uk. **EXHIBITION** RHS Photographer of the Year, until 11 August at RHS Garden Wisley, Surrey GU23 6QB. Tel: 0845 260 9000. Visit www.rhs.org.uk/wisley.

Saturday 27 July

EXHIBITION The Press Photographer's Year 2013, until 31 August at the Lyttelton Exhibition Foyer, National Theatre, London SE1 9PX. Tel: 0207 452 3000. Visit www.nationaltheatre.org.uk. **EXHIBITION** Resolutions (addressing digital technology's impact on contemporary photographic practice), until 9 August at Belfast Exposed, Belfast BT1 2FF. Tel: 028 9023 0965. Visit www.belfastexposed.org.

Sunday 28 July

EXHIBITION Georgia by Vanessa Winship, last day, at Third Floor Gallery, Cardiff CF10 5AD. Tel: 0292 115 9151. Visit www.thirdfloorgallery.com. **DON'T MISS** Travel Photography Live! Festival, last day, at Royal Geographical Society, 1 Kensington Gore, London, SW7 2AR. Tel: 0207 591 3000. Visit www.rgs.org.

Monday
29 July

EXHIBITION Alive – In the Face of Death by Rankin, until 15 September at Walker Art Gallery, Liverpool L3 8EL. Tel: 0151 478 4199. Visit www.liverpoolmuseums.org.uk. **EXHIBITION**

There's no such thing as bad weather – only different types of lighting by John Gravett, until 31 July at Theatre by the Lake, Cumbria CA12 5DJ. Tel: 017687 74411. Visit www.theatrebythelake.com.



Tuesday 30 July **LATEST AP ON SALE**

DON'T MISS OAP Afternoon Tea Party & Exhibition Tour, 2pm at Photofusion, London SW9 8LA. To book, email jenna@photofusion.org or call 0207 738 5774. **EXHIBITION** Ever Young by James Barnor, until 31 August at Impressions Gallery, West Yorkshire BD1 1SD. Tel: 01274 737 843. Visit www.impressions-gallery.com.



Guild anticipating 'highly competitive year'

PICTURE EDITORS' GUILD AWARD OPENS FOR ENTRIES

THE SEARCH for outstanding British photographers is underway as the UK Picture Editors' Guild Awards opens entries for 2013.

From this month, professional photographers can start submitting their best images of everything that's happened in the past year, in a bid to win the coveted title of SABMiller Photographer of the Year.

UK Picture Editors' Guild chairman Alan Sparrow said: 'The past year has produced a wealth of stories at home and abroad – from sporting feats at Wimbledon to legendary performances at Glastonbury. We've witnessed uprisings in Egypt, a new Pope in Rome and there's a Royal baby on the way too. With such rich content to capture, we anticipate another highly competitive year.'

Categories include News, Business, Fashion, and Sports photography, as well as videography and photo essays. From these categories, the ultimate winner will be selected.

Last year, the top prize was scooped by

freelance photographer Jason Howe, for his photo essay on the war in Afghanistan. Other winners included Getty photographer Dan Kitwood for his coverage of the London riots.

The competition also includes the BT Citizen Photographer of the Year prize, among the judges for which is AP editor Damien Demolder. This award is free to enter and open to all members of the public. Last year, it was won by Dr Kannan Arthreya for his image taken during the Olympics (see above).

This year's host, BBC presenter Kate Silverton, said: 'As a journalist I know how important visuals are to bring a story to life. We'll be looking for images that tell a story or capture a moment in time, in a way words sometimes cannot.'

The charge for entry to the main competition is £20, and entered images must have been taken between 17 July 2012 and 16 July 2013. The final submission deadline is September 1 2013. For full details, visit www.pictureeditorsguildawards.co.uk.

SANDISK DEBUTS 'WORLD'S FASTEST' 64GB MICRO SDXC CARD

SANDISK has today announced a 64GB Micro SDXC memory card, which it bills as the fastest of its type.

Designed for use with compatible cameras, tablets and smartphones, the SanDisk Extreme Micro SDXC features a claimed read speed of up to 80MB/sec and a maximum write speed of 50MB/sec.

This allows 'faster shot-to-shot performance, rapid data transfer, fast action photography, continuous burst... and quick file transfers', according to SanDisk.

SanDisk
Extreme

64 GB **micro**
SD **XC** **I**

At a press briefing, SanDisk cited the new Android-powered Samsung NX CSC as an ideal partner for the new card.

Claimed to be waterproof and shockproof, the card is also available in 16GB and 32GB versions.

A UK price had not been announced at the time of going to press.

SNAP SHOTS

● After two years of campaigning, photographers in Redbridge have succeeded in getting a discussion on the rights of photographers in public spaces onto their council's meeting agenda. A resident informed AP that repeated incidences of photographers being harassed by police and council officials resulted in a campaign to get the council to address the problem, though she acknowledges that the matter has been 'hidden away in the agenda pack, a tiny little item in tiny print'. The meeting will take place on 31 July at the Central Library near Ilford train station.

● Hollywood star Halle Berry is set to testify in favour of a bill in the California State Senate protecting children of celebrities from intrusion by the paparazzi. She says she wants to change the definition of harassment to the actual or attempted recording of the child's image or voice without the written consent of a legal guardian.



Do you have a story?

Contact Chris Cheesman
Tel: 0203 148 4129
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amateurphotographer.ipcmedia.com



Nokia hopes for the Lumia 1020 to become a portable 'spare' camera

Firm shows smartphone with six-element lens

NOKIA LUMIA 1020 ENTERS SMARTPHONE PHOTOGRAPHY BATTLEGROUND

NOKIA has unveiled the Lumia 1020, as the battle for supremacy in the increasingly cut-throat smartphone photography arena intensifies.

Nokia's latest PureView creation carries a six-element Zeiss f/2.2 lens (including one glass element), and a 41-million-pixel, 1/1.5in-type, back-



illuminated imaging sensor.

The lens module contains more than 100 parts.

The glass element is of a 'very high index' to help minimise the height of the phone, said Eero Salmelin, head of Imaging for Nokia Smart Devices, who added that the

Lumia 1020 delivers the 35mm viewing-angle equivalent of a 25mm lens.

The Lumia 1020 is designed to capture 34-million-pixel and 38-million-pixel files in 16x9 or 4x3 formats, plus a 5-million-pixel image at the same time. It uses Nokia's existing 'oversampling' technology to combine 7 pixels into a single 'superpixel'.

Salmelin said Nokia chose not to add a memory card slot to the new camera phone as this would take up more space, which was a 'design issue'. It includes 32GB of internal memory.

In the US, the 1020 will cost \$299.99 under contract, and will be available later this month. It will be out in selected European countries 'this quarter'.

AP understands that it should reach the UK in September, though the price is still to be announced.



ILFORD IMAGING SWITZERLAND IN FINANCIAL TROUBLE

ILFORD Imaging Switzerland, which makes Galerie-branded photographic inkjet paper, is in urgent talks with its bank as the company admits it can no longer honour all its financial obligations.

The company has released a statement to AP amid online reports that it is on the verge of bankruptcy.

Ilford Imaging Switzerland, which makes 'Galerie' photo inkjet paper, is a separate company from Ilford Photo, which is based in the UK and is unaffected (Ilford Photo is the trading name of Cheshire-based Harman Technology, which makes traditional b&w photographic papers and film).

A court hearing on the future of Ilford Imaging Switzerland is set to take place in mid-August.

In a statement, dated 3 July, the company said: 'The judge has requested

further information from the company, which needs to be submitted to the court by the end of July.'

'In the meantime, the managing directors of the company are continuing to work with its bank to explore all possible avenues for short and long-term investment.'

In an earlier statement, the firm said it has 'a liquidity issue and is no longer able to honour its full financial obligations'.

The company said its problems do not affect other parts of its parent company, Ilford Group AG.

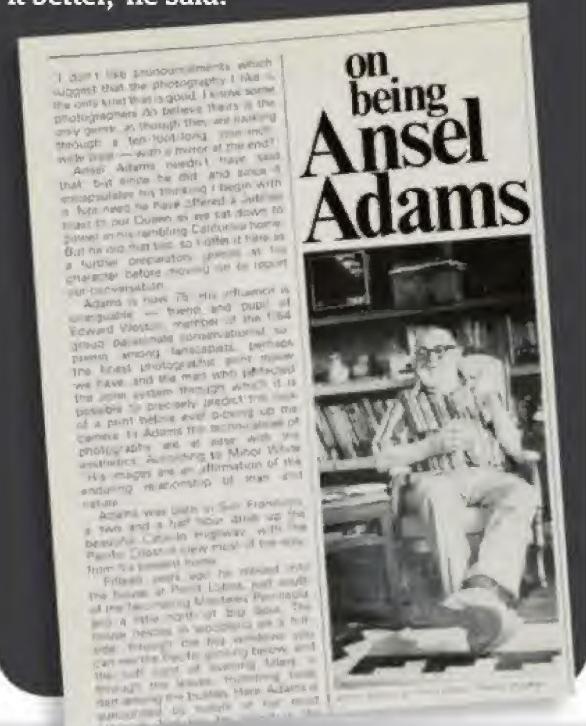
In 2010, UK-based investment company, Paradigm Global Partners, acquired Ilford Imaging Switzerland for an undisclosed sum from Oji Paper, a firm located in Tokyo, Japan. In April this year, the Ilford Group entered a strategic alliance with German-based paper supplier, Tecco.

A sample of the baryta paper produced by the troubled firm

AP THIS WEEK IN...

1977

'You'd be surprised how many times I'm criticised because I just do landscapes,' said the legendary Ansel Adams in George Hughes' two-page interview in AP 27 July 1977. "The world is going to pieces and all Ansel Adams photographs is rocks", is how he summarised the view of his critics. Adams was 75 at the time of the interview, and spoke candidly about his spates of bad-picture days. 'It's easy to force myself to go out with the will to make pictures. But too often when I look at the ground glass I realise I've done it before and done it better,' he said.



CLUB NEWS

Club news from around the country

BARRY CAMERA CLUB

The club is organising a meet on 26 July, from 6pm-8pm, at Porthkerry Park for anyone interested in starting out in photography. Meets take place at the first car park on the right before the bridge. Tel: 029 2070 0960 for details.

STAFFORD CAMERA CLUB

Stafford Camera Club (formerly St Leonards) is holding an exhibition at Stone Library, Market Square, Stone, Staffs ST15 8AT until July 27. To find out more about the club, visit www.staffordcameraclub.co.uk.

SNAP SHOTS

● Consumers take an average of around 27 photos per month using smartphones, according to a poll by memory card maker SanDisk. However, 80% continue to use digital cameras. The results were taken from a survey of more than 1,000 people.

● A start-up business in Washington, DC, in the USA, is attempting to revive the iconic Polaroid brand as a retailer. The Polaroid Fotobar, founded by Warren Struh, encourages printing photos in order to 'liberate' them from phones and tablets. Struh opened four months ago and says he is already looking to expand.

● A selection of archived photographs of Tyne & Wear shipyards, saved by staff at the Tyne & Wear Archives, have been included on the UNESCO Memory of the World Register, a global catalogue that promotes world heritage. The images sit alongside items such as the Domesday Book and the Magna Carta. Visit www.twmuseums.org.uk for more details.

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International Print results

ITALIANS SWEEP THE BOARD AT RPS AWARDS

THREE Italian photographers beat more than 1,200 entrants to take the top awards at the 2013 RPS International Print Exhibition. Antonio Busiello won Gold, Mattia Vacca took Silver and Michele Palazzi took the Under-30s Award.

Anthony Holland Parkin, director of editorial content at Getty Images and one of the judges, said the winning image (right) struck a chord with a number of the judges.

He added: 'In a world obsessed with retouched perfection, Antonio's honest image of a man proudly displaying his huge calluses challenges the viewer, and raises valid and contemporary questions about body image.'

An exhibition of the best



Gold

entries will be held at Shire Hall Gallery, Market Square, Stafford ST16 2LD until 8 September 2013.

To view the chosen images, visit www.rps-international.org



© MATTIA VACCA



Under-30s

SELF-TAUGHT PHOTOGRAPHER BERT STERN DIES, AGED 83

FAMED American photographer Bert Stern, probably best known for his portraits of Marilyn Monroe that were taken just six weeks before her death, has died in New York aged 83.

Stern, who was self-taught, captured the 2,500 images of Monroe, which became known as The Last Sitting, over three days in June 1962.

The pictures were first published by Vogue in the US, and in an article about Stern's death the magazine reported: 'Along with fellow photographers

Richard Avedon and Irving Penn, he [Stern] is widely

credited for having redefined fashion and advertising imagery in the '50s and '60s...'

Stern first began taking pictures as a photographer for the US army before becoming much sought-after for his commercial work.

In 2008, he recreated his 1962 Monroe photo shoot, using actress Lindsay Lohan, for New York magazine.

He shot the pictures on film rather than using a digital camera and duplicated the original Monroe set, right down to the lighting he used 46 years earlier.

Lohan posed nude for the shoot, which took place at the Hotel Bel-Air in Los Angeles, California, the location for the original Monroe shoot.

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AP hands-on

Canon EOS 70D

Canon's replacement for the **EOS 60D** features a unique sensor-based method of autofocus. **Richard Sibley** takes a first look at the **Canon EOS 70D** and its brand-new features



RELEASED in 2010, the Canon EOS 60D became one of the company's most popular DSLRs. Now, almost three years later, it is to be replaced with the Canon EOS 70D.

While the new camera inherits its predecessor's polycarbonate body, it also has also seem some significant improvements made to its autofocus system. The EOS 70D has 19 AF points, all of which are cross-type points, like the more advanced EOS 7D. The new camera also has built-in Wi-Fi connectivity.

However, of all the new features added by Canon, it is the EOS 70D's sensor design that is by far the most interesting.

NEW SENSOR TECHNOLOGY

The key new feature of the Canon EOS 70D is its unique and intriguing sensor. It follows in the wake of recent cameras we have seen that use some of the photodiodes on the sensor as a form of on-sensor, phase-detection autofocus.

Designed and manufactured by Canon,

Left: The body of the new Canon EOS 70D should be familiar to most EOS users

Right: The new Dual Pixel CMOS sensor enables high-speed, on-sensor phase detection AF, making it great for video

Lower right: Like the EOS 60D, the new camera has an articulated rear screen

the 20.2-million-pixel, Dual Pixel CMOS APS-C-sized sensor has an impressive sensitivity range of ISO 100-12,800, extendable to 25,600. However, the most interesting aspect of the sensor is that it has two photodiodes for each pixel.

This means that when the light from the camera lens isn't focused correctly, the light reaching each of the photodiodes will vary in brightness slightly. The EOS 70D's DIGIC 5+ processor can quickly analyse the difference in the level of light reaching each pair of photodiodes, and focus the camera lens so that the level of light reaching each of the photodiodes is identical.

I tried the new AF system on a pre-production model of the camera and found that the Dual Pixel CMOS AF is faster than the on-sensor phase detection we have seen on previous Canon cameras. While not as fast as conventional phase-detection AF, which is, of course, also included in the EOS 70D, it is certainly a big improvement on the usual contrast-detection method.

The entire 20.2-million-pixel sensor of the EOS 70D uses the dual photodiode arrangement, but the Dual Pixel CMOS AF is only active over 80% of the sensor area. A representative from Canon UK explained to us that this is because the pixels at the edges of the sensor were less accurate when used for focusing with this method.

When the Dual Pixel CMOS AF is used with Canon STM lenses which use very quiet stepping motors, focusing is almost silent. Canon claim the new AF system is fully compatible with 103 Canon EF lenses. However, there are around 25 lenses that cannot take advantage of the new AF system, although they will work fully with the camera's regular phase-detection AF.

The light from both photodiodes is used when creating a single pixel in the captured image. This is why the sensor has a resolution of 20.2 million pixels, and not 40.4 million. We were assured by Canon that the photodiode arrangement does not reduce image quality in any way.

AT A GLANCE

- New 20.2-million-pixel APS-C-sized CMOS sensor
- New Dual Pixel CMOS AF
- DIGIC 5+ processing engine
- ISO 100-25,600
- RRP £1079 body only

FIRST IMPRESSION

With the Canon EOS 60D having been on the market now for over two and a half years, the EOS 70D is an important camera for the company. While the resolution of the sensor has not been increased



dramatically, this isn't a bad thing. In the past couple of years, dynamic range and noise reduction have improved, and by keeping the resolution at a reasonable level, there is a good chance that the EOS 70D will produce excellent images.

However, it remains to be seen whether the new Dual Pixel CMOS AF technology built into the camera's sensor will have any effect on the quality of images. It will also be interesting to see how this method of autofocus really compares to standard phase and contrast-detection AF.

The Canon EOS 70D will be available from the end of August, priced around £1,079 body only, £1,199 with an 18-55 mm STM kit lens, and £1,399 with an 18-135 mm STM lens. **AP**



The side of the camera has sockets for an external microphone, remote release, HDMI and USB cables

VIEWFINDER, ELECTRONIC LEVEL AND AF MODES

THE SENSOR of the Canon EOS 70D isn't the only new feature. The viewfinder has a 98% field of view and it uses the same intelligent display technology that is found in the EOS 7D. New graphics have been added to the optical viewfinder overlay to improve the electronic level feature. The new level graphic sits below the AF arrangement at the bottom of the viewfinder. Previously, the AF points themselves were used to indicate whether the camera was level or not. Now the dedicated electronic level graphic makes it even easier to see if the camera is perfectly straight.

Also improved is the way the AF mode can be selected. There is now a dedicated AF mode button between the control dial and the shutter button on the EOS 70D's top-plate. When this button is pressed, the AF mode in use is displayed in the viewfinder. Pressing the button again will toggle to the other available AF modes, and turning the control



The new AF selection button is near the shutter button and changes to the AF mode are now visible through the viewfinder

dial allows the AF selection points to be changed.

This makes it possible to change the AF mode and the points in use without moving the eye away from the viewfinder. This system was fully working in the pre-production camera we tried and proved itself to be an excellent way of working. It should be of particular interest to those

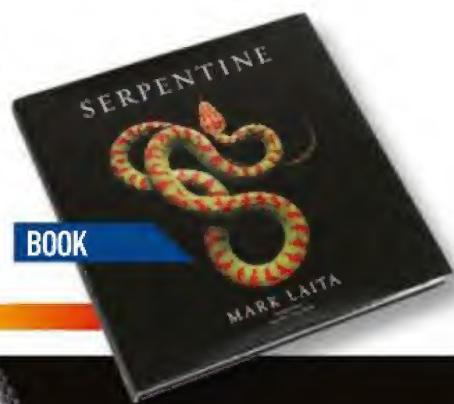
who shoot moving subjects, such as wildlife.

The camera can shoot full-resolution images at 7fps for 16 raw files or 65 JPEG files, when using a UHS-I SD card.

Like Canon's recent EOS 700D, the EOS 70D has a 3in vari-angle touchscreen, as well as the same multiple exposure, HDR capture, and creative filter modes.

APReview

The latest photography books, exhibitions and websites. By Jon Stapley



Serpentine

By Mark Laita. Abrams, £30, hardback. 200 pages, ISBN 978-1-4197-0630-1

OPHIDIOPHOBIA is the fear of snakes, and if you're a sufferer it would probably be best to steer clear of this book as Mark Laita's *Serpentine* is pretty much nothing but images of snakes. The unafflicted should find this stylishly simple book a delight. By exclusively employing black backdrops, Laita accentuates the colours and patterns of serpent skin. The coloured coils are almost hypnotic, and their separation from their natural context gives a heightened sense of unreality. Snakes have been a symbol of evil in human culture since biblical days, and Laita's photography helps us be objective in exploring why.

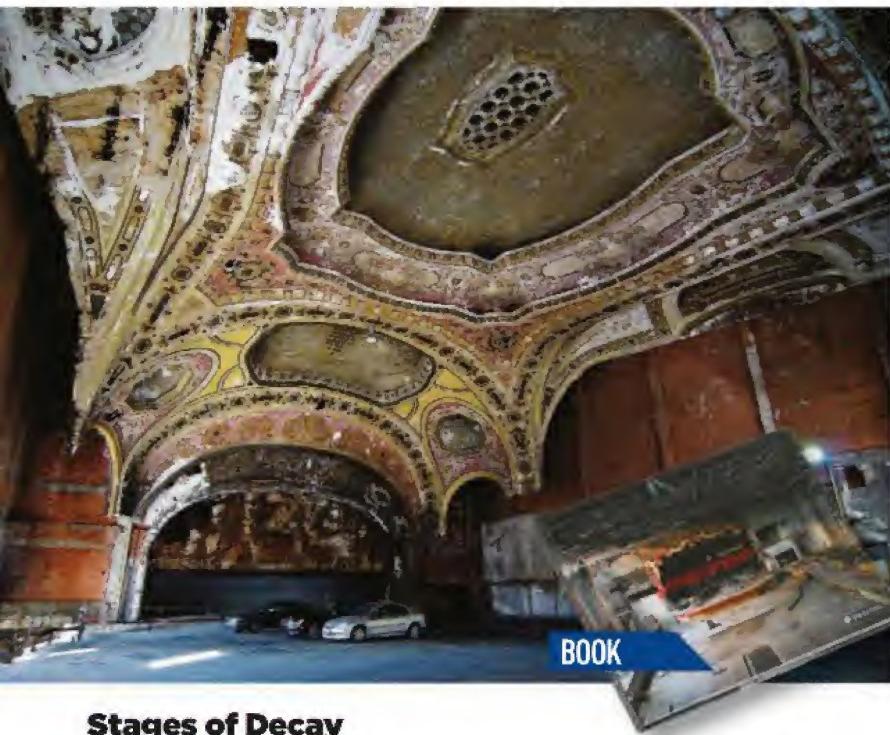


WEBSITE

www.cambridgeincolour.com

THIS is an impressive learning environment. Running since 2005, Cambridge in Colour has a slick design that easily takes the user from category to category and allows for quick location of the area of tutorial you require. The 'Tools' section is especially good, with useful little functions you may not have thought of, such as a depth-of-field calculator for tilt and shift or a focal-length calculator based on subject size and distance. The site has presence on various social networks, although many of them haven't been updated in a while and feel a little defunct. Still, what's on the site is solid and well worth looking into.





BOOK

Stages of Decay

By Julia Solis, Prestel, £22.50, hardback, 160 pages, ISBN 978-3-7913-4819-3

THIS book's concept of photographing the interiors of abandoned theatres is bolstered by some astute location selection and vivid, colourful photography. Theatres are naturally photogenic places (gold and red abounds throughout the book), and the trappings of neglect create a fascinating juxtaposition of the opulent and the dilapidated. Julia Solis makes great use of colour – many of the theatres have been overrun by graffiti artists, and she perfectly captures the graphic prints they have left behind. When we see paint peeling from the enormous curved walls of forgotten amphitheatres, it's hard not to wonder what the future holds for venerable art forms in these troubled times.



EXHIBITION



REHMAN SULTAN/CONTRIBUTOR

Harry Cory Wright: Hey Charlie

Until 7 September. Eleven, 11 Eccleston Street, London SW1W 9LX. Tel: 0207 823 5540. Website: www.elevenfineart.com. Open Tue, Wed, Fri 11am-6pm, Thu 11am-7pm, Sat 11am-4pm. Admission free



HARRY Cory Wright makes a loving tribute to a small slice of the area he grew up with in this exhibition – just a small river bend and field. Mixing 10x8in plate cameras with digital photography, Cory Wright adopts several approaches to show how this area has changed over time, the alterations in the landscape mimicking the transitions from childhood to adulthood. One memorable picture features a firework mid-explosion, mimicking and complementing the shape of the tree in front of it. This is an odd exhibition, but it's got a charm to it.

CONDENSED READING

A round-up of the latest photography books on the market

MICHAEL FREEMAN
THE COLOUR PHOTOGRAPHY
FIELD GUIDE



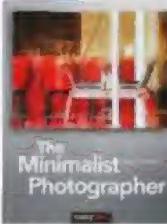
● THE COLOUR PHOTOGRAPHY FIELD GUIDE

by Michael Freeman, £8.99 Michael Freeman takes a pocket-sized bite at exploring the use of colour in photography with this handy little guide. There's a lot of ground to cover, so the text is densely packed. You do wonder if the book really needed to be compact, as it feels more like an in-depth read than a quick-to-hand reference book. It's full of golden tips and info, though, as well as some exploration of colour's history in art and imaging. ● IPAD



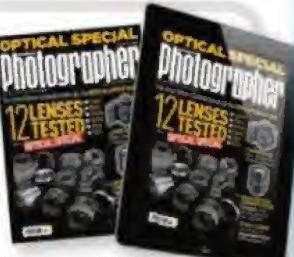
FOR PHOTOGRAPHERS

by Ben Harvell and Rachael D'Cruze, £9.99 An iPad isn't exactly the 'catch up or get left behind' must-have tool for photographers that the blurb of this book would have you believe, but it can be a useful way to manage your workflow. The authors provide a lot of information, but you get the feeling it was written for people who have bought their iPad but not quite worked up the courage to rip off the cellophane. ● THE MINIMALIST



PHOTOGRAPHER by Steve Johnson, £25.50 Pretty much anything can make for a good photograph if you shoot it the right way, and this guide to minimalist photography has some great advice about making a lot from a little. It's debatable whether all the images count as minimalist (some include a great deal of different elements), but there's still much to recommend. It's a nice reminder that photography doesn't have to be about capturing an impressive subject, and of the possibilities available if you exercise a little creativity.

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Letters

Share your views and opinions with fellow AP readers every week

LETTER OF THE WEEK

USE YOUR RIGHTS

It seems that both *Amateur Photographer* and David Watts have forgotten the provisions of the Sale of Goods Acts in their various iterations. No court in the land would consider 1,900 shutter actuations to constitute a camera 'of merchantable quality', particularly when companies like Nikon talk of 100,000 to 150,000 actuations as being reliably achieved. Mr Watts should get his useless camera back from Leica, take it back to the shop from which he purchased it, and demand a replacement or his money back, as Leica, the manufacturer, says it cannot repair its own product. The law provides that an article bought should perform for a reasonable length of time, and as others are still using Leicas that are 50 or more years old, Leica has set its own standard for reliability – and it isn't 2½ years! **Jonathan Briggs, via email**

Wins a 20-roll pack of 36-exposure Fujifilm Superia ISO 200 35mm film or a Fujifilm 8GB media card*



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'Letters' at the usual AP address (see page 3) fax to 020 3148 8130 or email to amateur.photographer@ipcmedia.com

*Please indicate whether you would like to receive Fujifilm film or a memory card (please state type preferred) and include your full postal address

Backchat

Send your thoughts or views (about 500 words) to 'Backchat' at the usual AP address (see page 3). A fee of £50 will be paid on publication

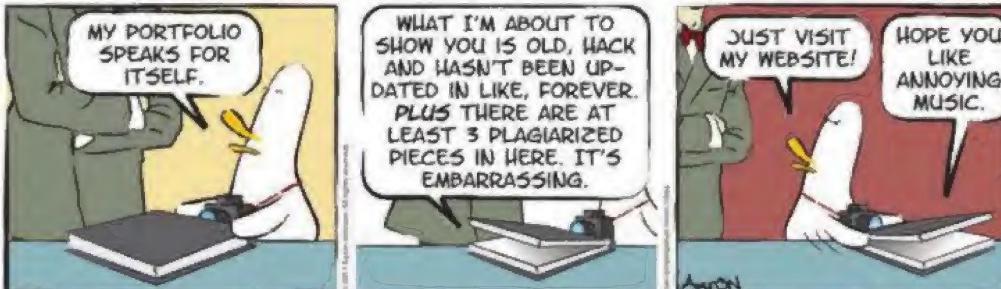
IRKSOME ERGONOMICS

I am so glad someone else has thoughts about the basic design of heldheld cameras (*Backchat*, AP 20 July). I hadn't long had my first SLR (a Praktica LLC, some 40 years ago) before I realised that it, and such

cameras in general, had a couple of notable ergonomic flaws: me being left-eyed and generously nosed!

All noses just get in the way when putting camera to eye, and in my case my face is significantly turned to the right relative to

What The Duck



the camera to get the eyepiece close to my left eye. It seems that eye-level viewfinder systems just ignore the issue of the human nose, so why not build such cameras with just the light box the other way up, with the viewfinder at the bottom but all the other controls unchanged? This would avoid your nose and allow the back of the camera to be held flat and firmly against your forehead.

Later, I was able to use a pistol grip in the tripod boss of a zoom lens to hold the LLC upside down with just my right hand and firmly braced against my forehead. I soon learned to do focusing, metering adjustments and the wind-on with my left hand, and this set-up was altogether a significant ergonomic improvement.

It seems to me that many cameras are consciously or otherwise designed to be used with the right eye, more so probably for rangefinders than for SLRs. The right-eye design bias was particularly acute with my dearly beloved Hasselblad XPan, but it did solve the nose problem for the right-eyed. I tried using a left-eye patch but found myself too grooved into my left-eyed approach for it to be workable.

One unsung advantage of using a digital camera with a live-view display is that there is no intrusion of the human nose into camera operation but, I agree, this is at the expense of an extended-arm stance and greater potential for camera shake, although this is being addressed by stabilisation technology.

However, the nose problem in general continues to intrude. What say you, all ye of the eye-level viewfinder persuasion? Why are SLRs built for the nose-less?

Andrew Herbert, Kent

There have been a number of cameras that feature a viewfinder in the base of the body – perhaps to avoid this particular problem – but none digital as far as I know. The Rhinoflex is a thing of the future, obviously, so stick to live view until it arises – Damien Demolder, Editor

LOYALTY SORELY TESTED

David Watt's letter (*A Leica is for life*, AP 13 July) struck a very raw nerve with me, as perhaps like David I am a lifelong Leica lover (and user), but then I was truly dumbfounded to also read of the replacement offer Leica made to him, and worse still, Leica spokesperson Clara Kroher's following and decidedly uncaring reply.

Surely David, and indeed all other digital 'M' enthusiasts deserve far better and longer ongoing service than this? After all, he paid somewhere around £3,000 for a camera he quite rightly says was billed by Leica itself as being for life, yet which is in truth is scrap after a mere 1,900 shutter actuations and only five months after its guarantee ran out!

It seems quite simply as though Leica does not care enough for its customers to carry the required spares to be able to service and repair what was a super-expensive new camera (which was

supposedly built to last a lifetime a mere two and a half years earlier!). Come on, Leica, surely you can and *must* do better than that if only to preserve your own reputation, or else you will not have any customers left. Take some advice from one of your long-term loyal customers and urgently make amends to Mr Watt's (who I do not know) and your own reputation by sending him a replacement camera with your compliments, even if it means sending him the latest 'M'.

Why do I care so much? Well, because I would like to be able to remain loyal to this once great company with whom I have spent many, many thousands of pounds over the last 58 years, always thinking that I was buying quality and longevity. But until I can be 100% sure that will continue to be the case, I will not be spending any more on Leicas, and that thought alone leaves me with a very real sense of personal bereavement.

Don Morley, via email

A SMALL WONDER

With all the furore among photographers over Adobe's decision to force everyone to buy their software in its online format, with all the attendant issues, I found myself wondering, 'Why all the fuss?'

As you mentioned in your reply to a previous letter on the subject, there are numerous options and some excellent free ones. However, you failed to mention the one I believe to be the pinnacle of simplicity and power, namely FastStone Image Viewer. This remarkably tiny piece of software enables you to edit and batch convert, rename and so on with the ease of use that Adobe can only dream of. I personally converted from Adobe two years ago and have never missed one feature. It's free, it's tiny and you should try it!

Gavin Hartshorn, via email

JUST RIGHT

Your little Advanced Photography: Software Skills booklet (free with AP 29 June) was brilliant, well written and gave exactly the right level of information to both inform and encourage. It was definitely worth the cover price on its own, so please pass on my respect and thanks to Damien Demolder.

Mike Rodwell, via email

I'm glad you enjoyed the book, Mike. Anyone who missed it can download the digital edition to their iPad or tablet. Visit www.amateurphotographer.co.uk/digital for more information – **Damien Demolder, Editor**

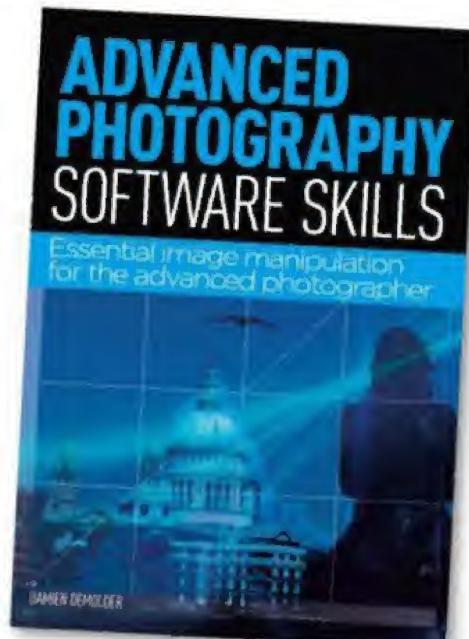
CLOUD THE ISSUE

I would argue that it misses the point to debate Adobe's new charging model in isolation; the issue is really what they know and care about their customer base. Businesses routinely buy many things as licences or services, and Adobe and Microsoft can easily stay profitable by offering just services because of that. If Creative Cloud was priced at the low level of services such as iTunes Match or Google Cloud, few would worry about the loss of 'products'.

Serious amateurs want professional capabilities, but not for the same number of hours per week, nor do they usually need multiple licences, or 100% 24/7 availability. The polarisation between Elements and Photoshop CC is too extreme and the divide badly drawn for serious amateurs. Microsoft has done something similar by not bundling Outlook with the Home version of the Office product, only with the service. Lack of competition and comparatively low volume sales of Photoshop to us amateurs are no doubt partly to blame, but I suspect both companies penalise amateur 'power' users in order to avoid small businesses getting too good a deal by masquerading as home users.

Lightroom has some competition with After Shot, ACDSee Pro and others. Its price has dropped dramatically in the last two years and it remains a product for now. Perhaps the serious amateur community has more value for Adobe than I think, in a similar way to the student market, and if we vote with our feet they might adopt a more flexible pricing structure where the charge is a function of usage time as well as product count. Then again, we might see something new in the market. At the advent of DSLRs, who predicted large-sensor CSCs and compacts?

Andrew Matthew, Beshire



GFC BACK CHAT

AP reader Melvyn Dover questions the originality of the Deutsche Börse winner, and considers the copyright issues it raises

THE WORLD'S gone mad again. Here I am sitting shocked at the latest shenanigans in the world of photographic art. And once again, big money is involved.

First, we had the recent news item in AP 1 June that photos of Red Square taken by a Russian monkey were expected to fetch £50,000–£70,000 at auction. And now, the winners of the Deutsche Börse Photography Prize have won without taking a single photograph!

Apparently, a spokesman for the Photographer's Gallery, which organises the annual competition, said, 'Sifting through the internet for low-resolution screengrabs and mobile-phone images, the artists then combined them to resonate with Brecht's poems.' So the judges didn't want anything too original then. Just grab a few bits from the internet. It makes me weep. And the winners scooped the £30,000 prize!

The judges praised the winners for 'exploring the complex relationship between image and text'. How does that work? Text is now part of photography? Providing the entry is a book? Why didn't they enter a book of Brecht's famous Silent Scream, along with an image of a blank page? Much easier.

The judges also say that the winners had 'pushed the boundaries of the medium'. No. They've pushed the boundaries of incredulity. What do their pictures actually say about that well-worn subject, the War on Terror? Anything that hasn't been said before? How ironic it is that thanks to the War on Terror, photography has been banned for various subjects and at many establishments. Why? For 'security'.

That's where most of us go wrong. We own cameras and take the pictures ourselves. We try to create something original, something that's our own work. And when it comes to photographic competitions in particular, we set ourselves high standards for picture quality. Obviously, these are no longer worthy qualities in this competition.

So, no need for original images or original text. What does that say about copyright issues? It's clearly giving the message that it's all right to trawl the internet for images and use them. And coming at a time like this, when photographers are protesting over recent changes to the law, the prize organisers have not behaved entirely responsibly.

The winners, I note, are referred to as 'artists' rather than photographers. Maybe I'm being naive and it's all about publicity. Perhaps it's comparable to an unmade bed, a sheep in formaldehyde, or a pile of bricks. All done in the name of art. By 'artists'. Who would have heard of the Deutsche Börse without this controversy?

I've a great idea for next year. I'm going to enter a reel of unexposed film and tell people to imagine an image upon it. This will be accompanied by a page of blank verse that I've copied, or that has been written by a monkey. In fact, it's such an obvious award-winner, I'll take the cheque now.



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PHOTO INSIGHT



DAVID WARD

David Ward is one of the UK's finest landscape photographers. With more than 20 years' experience in large-format photography, he has photographed extensively throughout the UK and in countries such as Canada, Iceland, Norway and France. He has also led workshops for Light & Land. David has written two books on his photographic philosophy called *Landscape Within* and *Landscape Beyond*. Each month, he will discuss the story behind one of his fantastic landscape photographs

Landscape photographer David Ward explains this shot of an ancient tree fern and how composition is about more than just form

THIS photograph was taken at Cradle Mountain-Lake St Clair National Park while I was on a trip to Tasmania, to the south of mainland Australia, last November. Cradle Mountain has some of the best-preserved upland habitats on the island. It's full of the country's typical vegetation, which looks very strange to somebody coming from the northern hemisphere. It has a kind of primeval feel to it, which is not surprising since an awful lot of the plant life is made up of very ancient species. You get huge tree ferns, some as tall as 15 metres (49ft), and one of these odd plants is the pandani, the subject of this photograph. This particular stretch was next to Boardwalk in Cradle Mountain, and on every single plant all the ends of the leaves had these little spirals on them. I found these fascinating, and wanted to highlight it while creating a simple graphic background for it.

I used a 210mm telephoto lens, which allowed me to isolate the background. I tried to make the composition fairly symmetrical. I've said before that for me the art of photography is about distillation, about focusing on the relevant things, and here for me it was the details and structure of this plant. Two things I think really work in an image are rhythm and repetition, and here you can see this in the organised layering of the leaves. The spiral grows from pretty much in the centre of the frame, but if you look in the background it's not all totally symmetrical. I didn't want the leaves on either side to match each other exactly. I could have probably spent a lot of time messing around trying to make them do that, but I decided not to. Nothing should be perfect.

I also like the way the plant disappears into darkness. The lightest part of the frame is that central spiral and, because we read photographs from dark to light, that's where the viewer's eye will ultimately end up. Almost inevitably, no matter where you look, you'll return to it, because it's the one structure that's different in the frame. If I'd

included the spirals on the other leaves, it would have diluted the image.

This image gave me some difficulties in terms of focus, not least because the day was quite windy. There was lots of standing around and waiting for the wind to die, then being just about to press the button when it picked up again. The spirals were quivering the whole time. It was early evening, and since I was using a shutter speed of 1/8sec I was struggling to get enough depth of field. I wanted just that one spiral to be sharp, which was a difficult thing to achieve. I shot this at f/11 2/3 on the Linhof Technikardan, which on a 5x4in camera is a very modest aperture – I think wide open on the 210mm lens is f/8 or maybe even f/9, so it's only just stopped down from wide open.

It took me about three or four minutes of looking at this particular plant before I found a shape that I wanted to photograph. The longest time was spent on just trying to get the focus and exposure correct. On a subject like this, if you move the camera 1/2in it will make a huge difference as to where the background elements will end up, so there are lots of very tiny fiddling adjustments to be done – tiny manoeuvrings of the tripod leg. This makes just focusing it more of a nightmare as well. I used some movement to lay the plane of focus along the leaf, in order to improve on the fairly shallow depth of field. This meant the whole of the leaf with the spiral was sharp enough – if I'd shot it without any movement then probably halfway up the spiral it would have started to become out of focus.

This image is an example of something I always try to do, which is working with what's presented to me rather than trying to impose a picture on the landscape. If I get somewhere and it's not the right light to shoot vistas or details, then I find something else to shoot. People often go to locations with an agenda, a composition in mind that they want to shoot. They'll stand exactly where somebody else has shot something and they'll shoot that same composition, even though it's completely different light and it's the wrong time of year. Composition is usually described as being about forms and how you place the forms in the frame, but of course composition is more than that. It is also about light, colour, motion blur and shutter speed. Composition depends on all these things – it's not one or the other, it's everything together. **AP**

To see more of David's images or to book a place on one of his workshops, visit www.into-the-light.com

David Ward
was talking to
Jon Stapley

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— The many shades of Gray, BPI (British Photographic Industry) News July/August 2013

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NIKON S4 RANGEFINDER CAMERA

Photographed by Tony Hurst

The Nikon S4 was introduced in March 1959. It was essentially a stripped-down version of the S3. Nikon discarded the self-timer and installed a manually resetting frame counter similar to the S2, removed the 35mm frame line from the finder leaving only those for the 50mm and 105mm lenses, and left off the motor drive coupling lug under the take-up spool. The S3 was supplied with a cloth shutter instead of titanium. The shutter speeds are from 1 to 1/1000th sec., B and T. Weight: 520g. When Nikon announced the S4 they ran into a real problem: Joseph Ehrenreich the owner and CEO of Ehrenreich Photo-Optical Industries would not import the S4 into the United States and Canada. He reasoned that he already had the hot selling Nikon SP and the second level S3 as a lower priced alternative to the SP. He was awaiting the forthcoming shipment of the Nikon F and he felt that the S4 would deprive them of sales of the S3.

Despite this set-back, Nikon decided to go ahead with production and sold them to the home market. The total number of S4s produced was 5,898, ranking it as the lowest production Nikon rangefinder since the Nikon M! It is important to bear in mind that with the exception of those few features that were removed, the Nikon S4 is of exactly the same quality as the SP/S3 models. This fine example comes complete with original instruction manual, maker's box and shipping carton. RARE (see inset photo) MINT- £7,000.



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Paul Debois

This image [left] was taken in Andalucía, Spain. It was early in the morning, and the exposure time was around 30secs. I love the movement in pinhole photography, and in this series I made lots of use of motion of the sea. Repeated waves built up a ghosted blur on the beach. Maybe three waves came in during the 30secs. I didn't count, but this makes the image very "calm" and also adds a three-dimensional depth. A single frozen wave might result in a flatter perspective. There is vignetting, but I think most pinhole cameras with a wide view will have this. If your camera has it, use it – don't try to subdue it. In this case, I accentuated the colour in Photoshop.

Discover the fun side of pinhole photography

Making your own camera can be a great way to rediscover just how much fun photography can be, as **Debbi Allen** finds out

MOST people have either tried pinhole photography and love it, or know nothing about it. So if you fall in the latter category, why should you give it a go?

Pinhole photography is lens-less photography. A tiny hole replaces the lens. Light passes through the hole and an image is formed in the camera. And it's this simplicity that appeals to those who create pinhole photos. The photograph is no longer about the fancy wizardry of a camera. It's about the scene, the composition and the excitement of a new way of capturing it.

Anyone can make a pinhole camera. A body-cap pinhole is about as simple as you can get, and it doesn't mean mutilating your camera, carving a wooden box or anything

more complex than drilling a small hole. We look at building a pinhole camera in more detail on pages 26–27.

The other great thing about pinhole photography is that it's fun. It might be challenging, but that can be a refreshing change. Pinhole photography helps you go back to basics and step away from the idea that images have to be pin sharp with perfect colour clarity and detail.

THE BREADTH OF PINHOLE

Mention pinhole photography and many people think of images that are dour, perhaps architectural and usually black & white. However, you can shoot pretty much anything with a pinhole camera.

Gregg Kemp (www.greggkemp.com) captures stunning long exposures of the sun and moon. Leaving the camera to work its magic over 12 hours, his photographs capture the path of the object. He explains: 'I employ lots of techniques when making pinhole photos. I tend to experiment, going from one approach to another over time. For my moon photos, I place a camera facing where the full moon will rise or set. This requires learning about the azimuth of the moon, and the compass direction of the moon rise and moon set during the changing seasons. I also pay attention to the morning or evening light to allow just enough sunlight to burn in the scene before or after the moon passes.'

Kemp continues: 'I love the diversity of expression achieved in pinhole photography. There are so many things that can be done with a pinhole camera that would be difficult and even impossible to do with a lens camera.'

Proving that point is fellow pinhole photographer Scott Speck (www.scottspeck.com), whose pinhole catalogue includes macro and portrait work. 'I like the ability to capture near-to-far scenes, with an effectively infinite depth of field,' he says. 'I also like the simplicity of the process, without the need to focus.' His Flickr set shows that whatever genre of photography you enjoy, you can employ a pinhole for further creative effect.



Ilford sells ready-made pinhole cameras, such as this Obscura (£70)

WHICH CAMERA IS BEST?

AS MENTIONED earlier, there are lots of options when it comes to choosing a pinhole camera, from a simple body-cap pinhole on your digital camera, to making your own from a template and cardboard (see pages 26–27), to buying one ready to shoot.

Pinhole cameras can be large or small, made from cans or cardboard boxes, or crafted from the finest-quality wood. Basically, a pinhole camera is a light-tight box with a tiny hole in one end and film or photographic paper in the other.

AP Photo Insight contributor Andrew Sanderson says: 'I'm currently using the new Ilford/Harman Obscura 5x4in camera and the Walker Titan 5x4in pinhole camera. Previously, I have used a homemade super-wide 10x8in camera and an assortment of homemade cameras, from a 12.5x3.25in curved-back panoramic to a 3in square perfume box and a film canister pinhole.'

'I love the surprise element of a homemade camera and the weird distortions that can arise. I like the freedom that these cameras bring, with no need to focus and the minimum of technical preparation. I also love the infinite depth of field and the distortion of scale when using super wide versions.'

Gregg Kemp also uses homemade cameras. 'I

make my own cameras out of mat board, tin cans, wood, and other materials and containers,' he says. 'I enjoy making cameras and often make a camera for a specific use. My latest models are made from foam board and papier-mâché. They are shaped and painted to look like large rocks. I use these cameras in the woods for exposures of several months (solargraphs).'



You can create your own pinhole by drilling a small hole in the body cap of your DSLR and sticking a tin-foil pinhole behind it

'Pinhole cameras can be made from cans or cardboard boxes, or crafted from the finest-quality wood'

SHOOTING TECHNIQUES

So, once you've chosen the subject you want to capture, and the pinhole camera you want to use, how do you go about taking a photograph?

The mechanics of loading and shooting are simple. You can load the camera either with film or fast photographic paper. Paper is easier to handle since you can load it into the camera under a safelight.

When you have the size of paper or film you need for your camera, tape it firmly to the inside of the end of your camera opposite the pinhole. The emulsion should face the pinhole.

To get clear, sharp pictures, you must keep your camera very still while the shutter is open. Use tape or a lump of modelling clay to hold your camera to a table, window sill, chair, rock or other firm support. Lift the black paper to uncover the pinhole and keep the pinhole uncovered for the recommended time. Cover the pinhole with the black paper between exposures.

The length of your exposures will vary, depending on the size of the hole and the film or paper being used. Generally, pinhole exposures range from 1/2sec to several hours or even days. Andrew Sanderson explains: 'I used to just guess the exposures, but now that I'm using cameras with known apertures I meter carefully.'

You should expect images from pinhole camera to be softer than those created by a lens, and they will suffer from greater chromatic aberrations. However, they will have an almost infinite depth of field. Up to a point, smaller pinholes will produce sharper



images than larger ones. Holes should be as smooth as possible, and you can print film negatives in the usual way.

Scott Speck has some useful advice for those confused with the shooting techniques: 'For metering, I use my DSLR, and spend a lot of time visualising the scene from behind the camera since I can't compose through the camera. Be patient, and use your imagination to capture the images that form the basis of your own artistic vision. Don't view the pinhole camera from a purely technical perspective, but an artistic/creative one.'

Paul Debois adds his own advice to those just starting out: 'Shoot several test rolls first, just to see what the camera is capable of and how it reacts to your subject matter. You will quickly begin to visualise the framing (as you're shooting "blind") and begin to "see" the subject. If there is movement, you will know that certain areas will blur and you can accentuate that in the composition.'

THE NEXT STEP

Pinhole photography can open up a whole new world of possibilities for your photography. Whether you decide to make your own camera or buy one, you're sure to enjoy this way of capturing images.

The key thing to remember is that pinhole photography should be fun. 'Experiment,' says Gregg Kemp. 'If you are comfortable making things, make a pinhole camera. It's easy to do and there are lots of instructions for making cameras on the internet and in magazines and books [see pages 26–27]. If you're serious

about exploring pinhole photography and have never developed photographic paper or film, I urge you to try it. There are still places where you can buy darkroom paper and film, and the chemicals to process these. It's a magical experience to watch your first paper negative or paper print develop in a darkroom tray.'

Andrew Sanderson agrees: 'Do a bit of online research. Put your cameras in unusual locations, get in close to things and then have loads of fun experimenting.'

So, the next time you are thinking of going out to take some photos, why not take a pinhole camera with you and see what you can achieve.



© ANDREW SANDERSON

Gregg Kemp

This photograph [left] was made using a tin can with a brass pinhole on the front. The curved path of the moon in this photo is the result of the curved back of the can. The photo was taken at Jockey's Ridge on the Outer Banks in North Carolina, USA. Jockey's Ridge is made up of large sand dunes that are constantly moved around by the wind. This photograph was taken facing west and recording the path of the full moon setting. I started the exposure well after sunset and left the camera all night. I returned in the morning and allowed a few minutes of the pre-dawn to light up the sand and sky just a little. I was pleasantly surprised at the colour and texture of the sky in this image. I have never done another shot with a sky like this one. I also like the simplicity of the scene. It's a bit surreal and a bit ethereal.'

Andrew Sanderson

'This image [above] was taken using my homemade super-wide 10x8in pinhole camera. I like the total depth of field in the shot and how the close viewpoint has given quite an odd look to the tricycle.'



© SCOTT SPECK

Scott Speck

'This is a portrait of a model named Kelly Kalac [above], recorded on ISO 400 5x4in film with an ultra-wide pinhole camera. She was wearing a white body suit and sitting on a retro-style white chair.'



Make a Like-A camera

Build your own basic pinhole camera, fit the lens and load it with film using the supplied template and instructions

WE'VE taken excerpts from Justin Quinnell's book *Build Your Own Pinhole Cameras* (see competition, right), so you can build your own Like-A paper pinhole camera. Justin's book contains lots of

camera designs and is packed with advice on how to get the best from your pinhole camera. Use the template (below), follow the instructions and join in the fun of taking pictures with your pinhole camera.

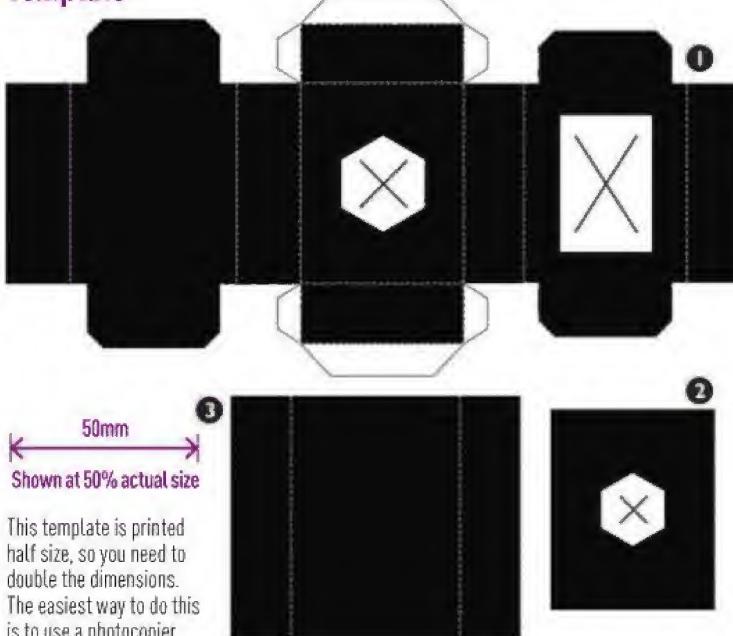
Pinhole lens

To create sharp images, your pinhole lens needs to be made out of metal – and an empty aluminium drinks can is ideal.

To make the pinhole lens, cut one end off the can using heavy-duty scissors (be very careful as the metal edges are razor-sharp) and then cut down the length. Cut off the other end of the can so you are left with a sheet of metal. Place this under a pile of books to flatten it. Then cut out a $1\frac{1}{2}$ in (4cm) square of metal.

Using wet & dry sanding paper, sand off the paint from the outside of the metal strip in the centre where the pinhole will be made. Place the metal painted side down on an eraser and use a fine needle to make a hole, making sure only the tip of the needle punctures the metal. With the metal painted side up, flatten the area around the hole using sandpaper. Blow out the dust and hold it up to the light to check the size of the hole.

Template



This template is printed half size, so you need to double the dimensions. The easiest way to do this is to use a photocopier.

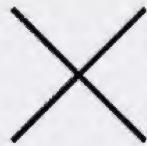
Template key

The template is designed so the lines on the various pieces act as cutting and folding guides. Make sure you fold things in the right direction as it will make the camera instructions much easier to follow – fold something the wrong way and it will seem as though nothing fits!

Cut (solid line, black or grey) Cut out the template along this line.



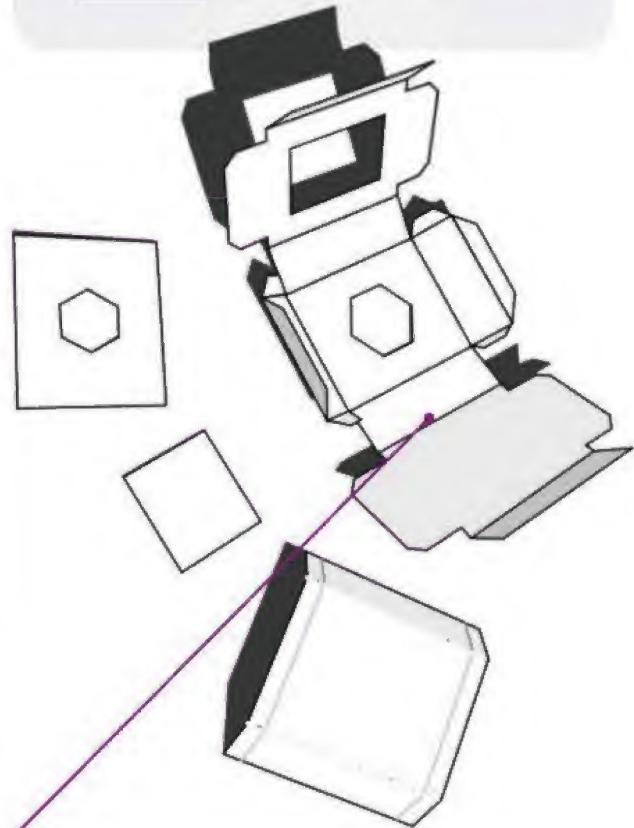
Mountain fold (dotted line) Mountain folds are the most common type of fold and are used in this camera template. Score the line and fold the parts either side of the line downward, so the fold forms a ridge – like a mountain.



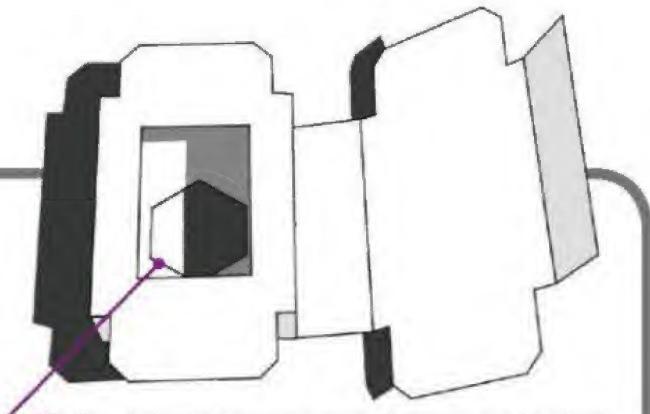
Cut out shape Shapes marked with an 'X' – such as shutter holes – should be cut out from the template.



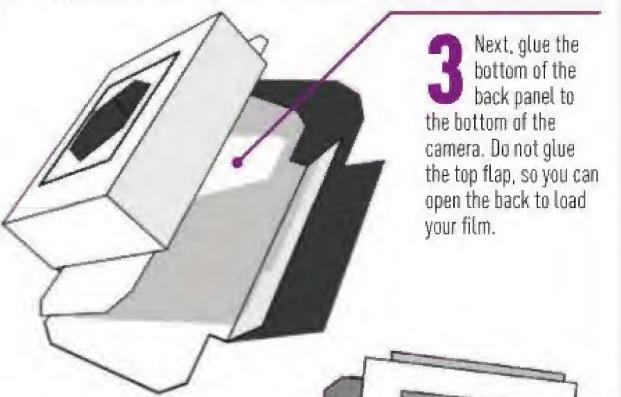
Colour (solid black areas) Areas of the template that are coloured in solid black need to be light-tight so light doesn't creep in and expose or 'fog' your film. Although they are printed black, you should also colour the reverse side of these parts with a thick black marker pen to make sure the card is light-tight.



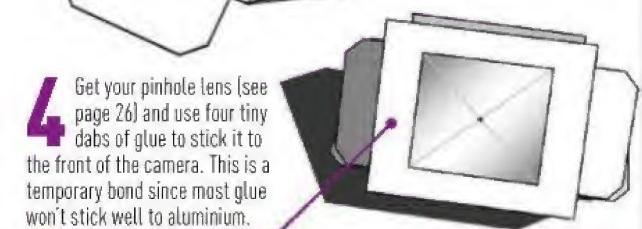
1 Print out the Like-A template (see left) on thick card (220gsm card is best for assembly). Cut, score and fold all the pieces as marked using the key (top) as a guide. Remove all the shapes marked with an 'X'. Colour the back of the camera black to make sure it is light-tight.



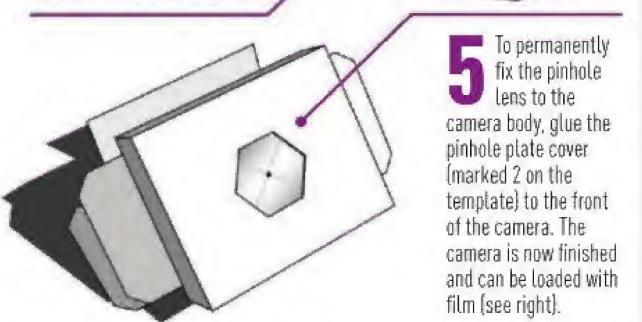
2 Alternatively, print the template onto regular copy paper and glue it onto card that is thick enough so that no light can get through – the card from a cereal box is perfect. Once the glue has dried, cut out the three template shapes and remove the hexagonal holes marked with an 'X'.



3 Next, glue the bottom of the back panel to the bottom of the camera. Do not glue the top flap, so you can open the back to load your film.

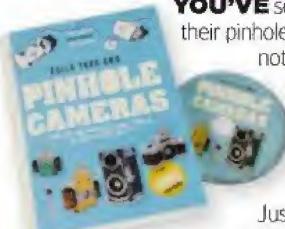


4 Get your pinhole lens (see page 26) and use four tiny dabs of glue to stick it to the front of the camera. This is a temporary bond since most glue won't stick well to aluminium.



5 To permanently fix the pinhole lens to the camera body, glue the pinhole plate cover (marked 2 on the template) to the front of the camera. The camera is now finished and can be loaded with film (see right).

COMPETITION



YOU'VE seen what the experts can do with their pinhole cameras on pages 23–25, so why not try it yourself? Use the template and instructions on these pages that explain how to build a Like-A paper pinhole camera, taken from Justin Quinnell's new book *Build Your Own Pinhole Cameras*.

Justin's book contains everything you need to make your own pinhole camera, including numerous templates – and we're giving away three copies of his book in our free competition. For your chance to win a copy, visit www.facebook.com/Amateur.photographer.magazine and tell us what you would make a pinhole camera out of. Post your entry to our wall, adding the hashtag #pinholeAP. The competition closing date is 31 August 2013.

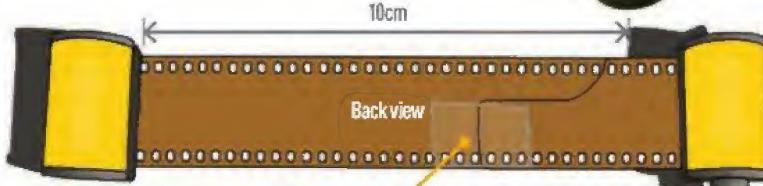
Build Your Own Pinhole Cameras by Justin Quinnell (cameras designed by Josh Buczynski) is priced £8.99, ISBN 978-1-78157-992-3. To find out more about Justin's lectures and workshops, visit www.pinholephotography.org.

LOADING YOUR CAMERA

Once you've made your camera and lens, it's time to load it with film and start shooting

1 The take-up spool is where your exposed pinhole pictures will be kept when they've been shot. To make a take-up spool, you'll need a spare roll of film that you don't mind wasting. The reason it's going to be 'wasted' is because the first step is to pull all the film out of the cassette, which will expose it to light. Cut the film off about 4in (10cm) from the end, so you're left with a short 'tail' hanging out of the cassette.

2 Carefully cut off the top turning knob. This is tough, so be very careful. Removing the knob means your camera will sit flat when you're taking pictures.

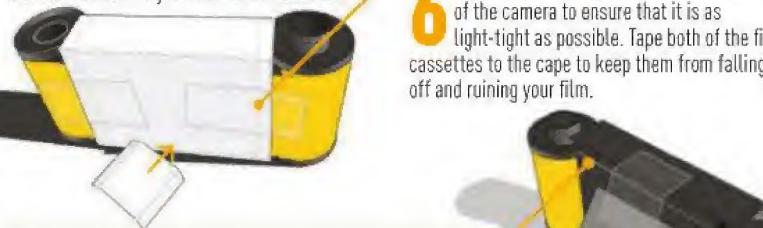


3 Position your usable roll of film on the right and the take-up spool upside down on the left. Tape the two rolls together as shown (above and right). The light side of the film (emulsion side) must face towards the pinhole lens.

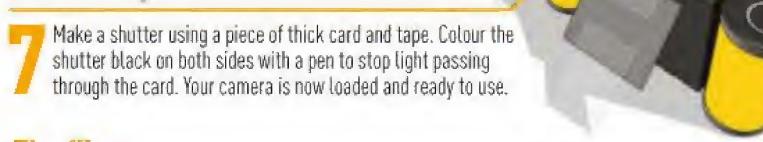
4 Position the film inside the back flap of the Like-A camera, so the unexposed film is on the right (looking from the back of the camera) and the take-up spool is on the left.



5 Close the back of the camera over the film. Slide the side tabs into the film roll on the right. Avoid pulling too much film out and exposing it. Slide the take-up spool onto the tabs on the left side of the camera. Let the film push into the canister as you slide it onto the tabs.



6 Tape the camera cape to the top and bottom of the camera to ensure that it is as light-tight as possible. Tape both of the film cassettes to the cape to keep them from falling off and ruining your film.



7 Make a shutter using a piece of thick card and tape. Colour the shutter black on both sides with a pen to stop light passing through the card. Your camera is now loaded and ready to use.

The film

To wind on the film, insert a large paperclip in the hole at the top of the take-up spool and wind the film on to the next frame by turning the paperclip three-quarters to one turn clockwise. You can tell when you get to the end of the film because you won't be able to wind it on any more. When this happens, swap the paperclip from the take-up spool to the original cassette and rewind the film

back into the cassette by turning the paperclip anticlockwise. Rewind in subdued light, not direct sunlight, and keep turning until you can't turn it any more. Remove the exposed film and take-up spool and unfasten the tape that holds the two together. The take-up spool can be used again and the exposed film is ready to be taken to a lab and processed.

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Floral Still Life

We had some stunning entries for round 5 of APOY 2013, as we reveal the top 30 photographs from our **Floral Still Life** round

James Eldridge, of Folkestone in Kent, is the winner of our Floral Still Life round of APOY 2013. James will receive a Panasonic Lumix DMC-G5 with Lumix G Vario 14-140mm f/3.5-5.6 Asph Power OIS and Leica DG Macro-Elmarit 45mm f/2.8 Asph Mega OIS lenses, worth a total of £1,579.98. The G5 is a digital single-lens mirrorless camera with a 16.05-million-pixel, four thirds, Live MOS sensor. It has 6fps high-speed continuous shooting, a 3in, 920,000-dot articulated LCD touchscreen and a 1.44-million-dot EVF. The Leica 45mm lens has a bright f/2.8 maximum aperture designed to produce minimum distortion and soft focus.

Our second-placed winner is **Rosie Burt**, of Chapel Brampton in Northamptonshire, who will receive a Panasonic Lumix DMC-TZ35, worth £249.99. The TZ35 has a 24mm ultra-wideangle Leica DC Vario-Elmar lens with 20x optical zoom (equivalent to 24-480mm), while a new creative panorama function includes 12 filters that allow users to apply effects to their panoramic images.

Ian Waite, of Kendal in Cumbria, finished third in the round and wins a Panasonic Lumix DMX-SZ9 worth £179.99. The slim SZ9 incorporates a 25mm ultra-wideangle Leica DC Vario-Elmar lens with 10x optical zoom (equivalent to 25-250mm). Other features include Wi-Fi connectivity and 1920x1080-pixel full HD 50i video in AVCHD and 25p in MP4 format.

THE 2013 LEADER BOARD

Adrian Sadlier has moved from third place to first on 145 points, with Frederic Vaeremans leaping into second on 134 and Dusica Paripovic moving from fifth to third on 130 points. James Eldridge's first place in this round has taken him to tenth place on the overall leader board.

1	Adrian Sadlier	145pts	6	Julian Fraser	110pts
2	Frederic Vaeremans	134pts	7	Aaron Yeoman	109pts
3	Dusica Paripovic	130pts	8	George Fisk	94pts
4	Dan Deakin	129pts	9	Gary Burrows	89pts
5	Mikhail Kapychka	122pts	10	James Eldridge	81pts

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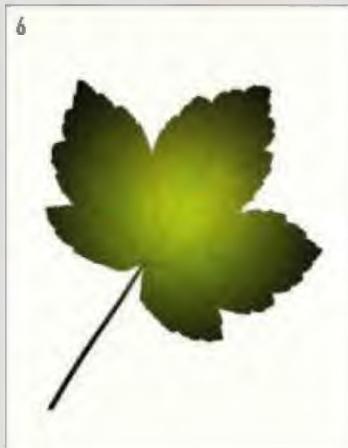
4 Emma Goulder Nottinghamshire 43pts

Canon EOS 350D, 105mm macro, 1/125sec at f/14, ISO 100
 Stigma and stamens **Judges say** Emma's cleverly composed image makes use of strong colour and considered framing



5 Frederic Vaeremans Essex 42pts

Olympus OM-D E-M5, 20mm, 1/80sec at f/5.6, ISO 400
 Sunflower **Judges say** Frederic's excellent in-camera multiple exposure takes two subjects: a sunflower and maple leaves



6 Lawrence Cain Manchester 42pts

Canon EOS 20D, 28-135mm, 1/8sec at f/11, ISO 100
 Leaf **Judges say** Using a lightbox, Lawrence has explored the attractive, graphic shape a leaf. The light reveals the structure of the subject. It's a simple shot and all the better for it

7 Brian McDonnell Ayrshire 41pts

Nikon D300S, 50mm, 1/2500sec at f/1.8
 'The Day's Eye' **Judges say** Brian's shot of a daisy has been intentionally underexposed to create a sense of mood

8 Adrian Sadlier Dublin 40pts

Nikon D7000, 60mm, 6secs at f/20, ISO 100, tripod
 'Gerbera' **Judges say** Sometimes it's enough to focus on the simplicity of a subject. Adrian used indirect natural light, a black background and black reflectors to emphasise the flowers' edges

9 Anthony Worsdell Surrey 39pts

Nikon D600, 105mm macro, 18 focus-stacked images taken at f/8
 'Three Calla Lilies' **Judges say** This focus-stacked image from Anthony is a joy to look at. It's a shot that demonstrates how the most subtle of arrangements can elevate your images

10 Richard Cooper Hampshire 38pts

Canon EOS 7D, 55mm, 1/80sec at f/8, ISO 100
 'White Lily' **Judges say** Using a piece of A4 white paper, Richard directed the light onto the lily to reveal its mesmerising form



11 Inger-Lise Zamata Norway 37pts

Sony Alpha 99, 100mm macro, 1/200sec at f/10, ISO 400
 'Giant Leaf' **Judges say** Inger-Lise has wisely chosen to convert this shot to monochrome, lending the subject an absorbing tonal range. Black & white also helps to reveal the intricate patterns

12 Julian Fraser Devon 36pts

Nikon D700, 70-300mm, 1/60sec at f/4.8, ISO 800
 'Dahlia' **Judges say** Julian's shot of a dahlia was taken on his garden patio using natural light. He said he wanted to produce a close-up shot while maintaining an engaging composition



13 Sarah Brooke Northamptonshire 35pts

Canon EOS 5D Mark III, 100mm macro, 1/30sec at f/8, ISO 100
 'Apple Blossom' **Judges say** This is a lovely quaint shot from Sarah. The bright tones and even lighting have come together to form an interesting study in still-life

14 Geraint Nicholas Essex 35pts

Nikon D7100, 35mm, extension tube, 0.6secs at f/5 (30 images focus stacked), ISO 100
 Dandelion **Judges say** If you look carefully you can see the clock in the background of this shot – a reference to the childhood game of telling the time by blowing the dandelion seeds off the head

15 Christina Burton Devon 34pts

Canon EOS 5D Mark II, 17-40mm, 1/60sec at f/8, ISO 200
 'Young Gunnera Leaf' **Judges say** There's something unnerving about this shot, although that's not a criticism. The level of detail that Christina has revealed makes you keep looking

16 Peter Fenech County Durham 33pts

Canon EOS 7D, 70-200mm, 1/200sec at f/11, ISO 320
 'After the Rain' **Judges say** Peter has created a shot that harks back to the kind of imagery produced by the Renaissance painters

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17 Dusica Paripovic Bosnia and Herzegovina 32pts

Nikon D5000, 18-55mm, 1/200sec at f/5, ISO 200

Seeds Judges say Dusica has consistently sent in some of the most intriguing images to APOY, and this shot is no different. It is a bold interpretation of the brief



18 Nicolas Barber Staffordshire 31pts

Canon PowerShot G11, 6.1-30.5mm, 1/250sec at f/4, ISO 80

Reclining Judges say Nicolas spotted this flower after it fell on his car roof outside the local supermarket



19 Steve Halliday County Durham 31pts

Canon EOS 7D, 50mm macro, 1/50sec at f/18, ISO 1000

Tropical leaf Judges say Steve has used a macro lens to explore the form of this leaf and has retained the rich colour



20 Martin Clifton Hertfordshire 30pts

Nikon D700, 105mm, 1/20sec at f/9.5, ISO 200

'Dissected Tulip' Judges say Martin has bisected this tulip in order to show the viewer its complex internal anatomy



21 Julian Clune Hull 29pts

Nikon D700, 24-70mm, 1/30sec at f/9, ISO 640, tripod

'Purple Chrysanthemum' Judges say Julian shows us that light tents are one of the handiest tools a photographer can possess



22 Stephen Wright Nottinghamshire 28pts

Nikon D90, 18-55mm, 1/1250sec at f/5.6, ISO 200

'Dandelion Fireworks' Judges say Stephen has taken us into the busy intermingling seed heads of this dandelion. The high-contrast tones work perfectly for the form

23 Simona Bonanno Italy 27pts

Canon EOS 5D Mark II, 40mm, 1/60sec at f/8, ISO 100

'Calla' Judges say Here we see that the delicate light has revealed an almost sensuous quality in the shape of this lily

24 Bill Sell Carmarthenshire 27pts

Nikon D40, 38mm, 1/200sec at f/5.6, ISO 200

Flower on wood Judges say Bill has created an image that seems to be about so much more than a flower. It hints at a wider narrative through its setting

25 Dan Deakin Bristol 26pts

Nikon D700, 85mm, extension tube, 1/1000sec at f/2, ISO 400

'Two flowers' Judges say To achieve such a narrow depth of field Dan added an 11mm extension tube to an 85mm prime lens

26 Janos Balda Hungary 25pts

Canon EOS 500D, 55-250mm, 1/1500sec at f/4.8, ISO 100

Urban poppies Judges say Janos has spotted these poppies in an urban setting and captured their natural beauty under natural light

27 Joao Domingues Portugal 25pts

Fujifilm X100, 1/60sec at f/16, ISO 400

Leaf detail Judges say This is a shot that is very much about texture. Look close and you actually see the single cells

28 Paweł Majewski Oxon 25pts

Canon EOS 550D, 50mm, 1/125sec at f/1.8, ISO 100

Blurred flower Judges say The shallow depth of focus and strange lighting has given this image a dreamlike quality

29 Diogo Ferreira Portugal 24pts

Olympus OM-D E-M5, 12-50mm, 1/1250sec at f/6, ISO 200

Daisy and spider Judges say The presence of the spider creates an interesting sense of scale in Diogo's high-contrast graphic image

30 Sandra ten Zijthoff Ecuador 23pts

Nikon D90, 70-300mm, 1/500sec at f/4.5, ISO 250

'Botanical mystery' Judges say Taken in the Bolivian Andes, this is a great example of how natural light and focus can be used to create a beautiful and engaging image



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Up, up and away!



Clive Minnitt tells **David Clark** why hot-air balloons are his favourite photographic subject and offers advice on how to shoot balloon festivals

THERE'S something magical about the stately and graceful flight of hot-air balloons as they sail across the sky. Landscape photographer Clive Minnitt says he's smitten with shooting them. 'Balloons are an extremely photogenic form of air travel and look wonderful,' he says. 'Also, I love photographing colour, and hot-air balloons are extremely colourful. Personally, I can't think of a better subject.'

Clive has been professional for 16 years. He gave up his job as a computer systems analyst in 1997 after taking part in a Light & Land photographic holiday as a client. He has subsequently become a Light & Land tutor himself and has led more than 50 tours and workshops in the UK and abroad.

PERSONAL PROJECTS

When not leading Light & Land trips, Clive gives talks, writes for photographic

magazines and works on his own personal book projects. 'It's good to focus your photography on a particular project and work at it over time,' he says. 'I think doing that helps you improve your work, because you constantly have to think of how to take better or more imaginative pictures of the same subject.'

So far Clive's projects have included *Clevedon Pier: A Celebration of England's Finest Pier* and *The Gorillas Have Landed* – a light-hearted collection of pictures of the fibreglass gorilla sculptures that, in 2011, were dotted around his home city of Bristol.

For his latest book project, Clive has focused his attention on the attractions of another Bristol-based event: the annual International Balloon Fiesta. It's the largest event of its kind in Europe. Up to 120 balloons take part and as many as 500,000 people attend over four days.

'I love photographing colour, and hot-air balloons are extremely colourful. Personally, I cannot think of a better subject'



Top left: This image, shot looking up inside a hot-air balloon, makes a colourful abstract

Above: Clive waited until this balloon was in the ideal position in relation to a crane in Bristol's historical museum, The M Shed

Once Clive had decided on this subject, he methodically planned out how he was going to tackle it. He started by making a list of not just the locations, but also the type of pictures he wanted to include, such as balloons with clouds, balloons with interesting foregrounds, or a colour match between balloons and other elements.

To shoot the ballooning project, Clive initially used a Canon EOS 5D with a 100–400mm L-series USM lens, but decided to downsize his camera gear in the early stages. As a result, most of the images were taken with a Panasonic Lumix DMC-GF1 and either a 14–45mm or a 45–200mm lens, mainly handheld. A smaller number were taken with his back-up camera, a Panasonic Lumix DMC-LX5 compact.



The distorted shape of a semi-inflated balloon is balanced in the frame by another one in flight



Clive was shooting on board a balloon when another sailed between him and the ground



These silhouetted figures are helping to inflate a red balloon at the take-off site

'These pictures would usually come from simply observing, deciding what might be in the foreground, and watching the situation'

JUXTAPOSITION

One particular feature of Clive's approach was that he aimed to create juxtapositions between balloons and foreground or background features. For instance, he might use circular-shaped foreground flowers to echo a balloon's shape. Alternatively, he would wait until a balloon was directly aligned with a foreground chimney stack, to make it look as though the balloon had just popped out of it. As he explains, this approach required careful planning, measured judgement and a certain amount of luck.

'The juxtaposition idea was one of the most challenging, but also one the most enjoyable parts of the project,' Clive says. 'These pictures would usually come from simply observing the balloons, deciding

what might be in the foreground, and watching the situation develop.'

'It sometimes meant I had to think very quickly, particularly if balloons were moving from side to side. I had to see the potential, imagine the end result and work backwards to think how I could achieve it. Sometimes I'd have to move around to get in place and only get one opportunity. This approach doesn't always work, but it's fantastic when it all comes together as you'd hoped.'

The resulting collection, *Bristol Hot-Air Balloons*, features pictures of balloons of all shapes and sizes, taken from numerous imaginative angles. Balloons are shown from underneath, or reflected in the surface of a lake, placed beside Bristol landmarks or floating majestically above the Somerset countryside.

BALLOON FESTIVALS

The Bristol Balloon Fiesta

This takes place from 8-11 August 2013. Mass balloon ascents take place at Ashton Court Estate at 6am (not 8 August) and 6pm. 'Nightglows' are on Thurs and Sat at 9.30pm. Visit www.bristolballoonsfiesta.co.uk for details.

The Northampton Balloon Festival

Runs from 16-18 August. Balloons fly at 6am and 6pm on all three days. Visit thenorthamptonballoonsfestival.co.uk.

The Strathaven Balloon Festival

This takes place from 23-25 August in South Lanarkshire. Balloons launch at 6am (Sat and Sun), 6pm (Fri, Sat and Sun) and 9.30pm (Sat). Visit www.strathavenballoonsfestival.co.uk.

- For further information on UK ballooning events, visit www.balloonevents.org.

CLIVE'S TIPS

If you're thinking of shooting your own ballooning images this summer, Clive has some advice. 'First, you should find out exactly where the balloons are taking off and check the forecast for the wind direction,' he says. 'Get in your chosen shooting position early and look for foreground or background elements that can add to the picture.'

'Nevertheless, no matter how much planning you do, you can't guarantee that the balloons are going to be very photogenic. You have to be able to react to changing circumstances, be adaptable and keep looking. Think outside the box, be adventurous, break the rules and don't be blinkered. Broaden your horizons a bit and you'll start to see pictures.' AP



Bristol Hot-Air Balloons by Clive Minnitt is available from www.minnitt.co.uk, priced £11.99 including p&p

Amateur Photographer's...
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Queen, 1974 by Mick Rock

The *Queen II* album cover symbolises the Glam Rock era and is one of the most instantly recognisable music images.

Mick Rock tells **David Clark** the story behind it

BRITISH pop music in the early 1970s was dominated by the glitz and extravagant fashions of Glam Rock. Performers including David Bowie and Elton John, and bands such as T.Rex, Sweet and Roxy Music adopted its style, wearing outlandish costumes, colourful make-up and ubiquitous platform boots.

One of the main photographers chronicling the rise of the Glam era was Mick Rock. Born in West London and christened Michael David Rock, he had studied modern languages at Cambridge, but took up photography in 1969. He met David Bowie in 1972 and captured the rise of his Ziggy Stardust persona in dynamic performance shots.

Mick had what he's described as 'an instinct for the colourful and decadent'. His subsequent friendship with Bowie and later Lou Reed made him a Glam Rock insider who knew many of his subjects personally.

By late 1973, when he was in his mid-20s, his work was in demand and he had shot the now-iconic covers of Lou Reed's *Transformer* and Iggy Pop's *Raw Power*. During that period, record producer and engineer Ken Scott introduced Mick to a little-known band named Queen. They had released their first, eponymously titled album earlier in 1973, which had drawn some critical praise but was not a commercial success.

He met the band members Freddie Mercury, Brian May, Roger Taylor and John Deacon at their record company's Soho offices. 'They played me their new album, to be titled *Queen II*', Mick remembers. 'When it was finished, I burbled something like, "It sounds like Ziggy Stardust meets Led Zeppelin", which they thought was very positive.'

EMI, the band's record company, asked Mick to shoot the album's gatefold cover. The only brief was that it had to feature the

band and have a black & white theme. In early December 1973, Mick discussed the forthcoming shoot with Freddie, who had named the band and designed its logo.

One crucial influence on how Mick chose to shoot the main image came via meeting the film historian John Kobal. Mick had recently shot a portrait of him and in return Kobal gave him some prints from his extensive collection of classic Hollywood images.

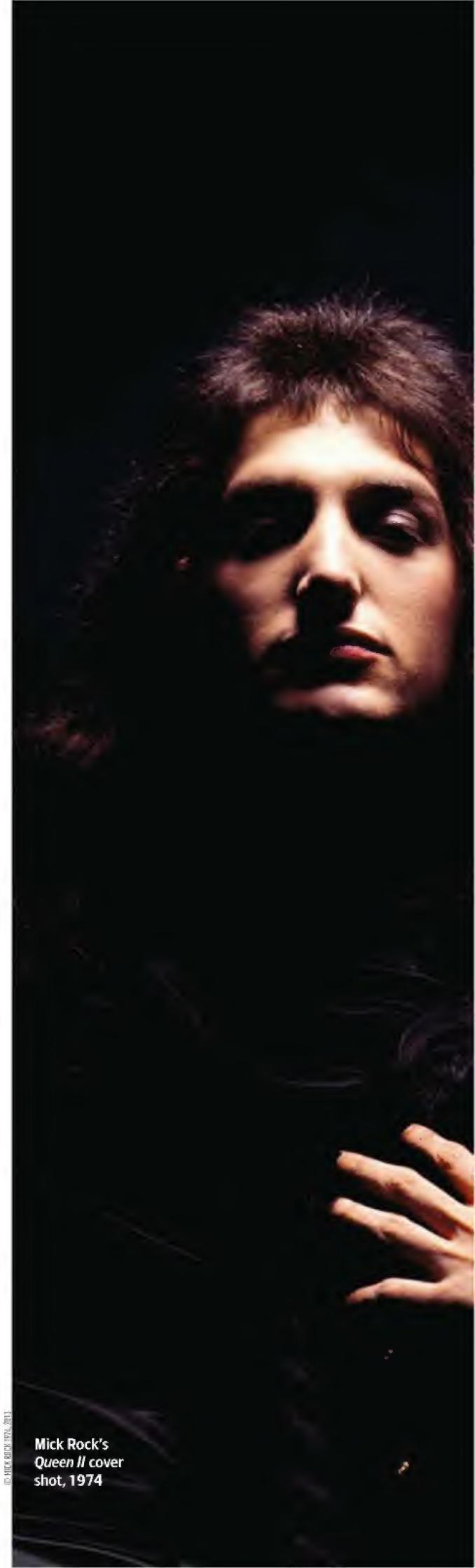
Among them was a publicity still of actress Marlene Dietrich on the set of the 1932 film *Shanghai Express*. In the picture, Dietrich was shown in black clothing against a dark background, starkly lit from above, with her hands crossed and spread out towards her shoulders.

'I showed Freddie the shot and I think the Marlene thing clicked in his brain and he got it straight away,' says Mick. 'At that stage, I wasn't necessarily thinking this was going to be the front cover, but would either be on the outside or inside of the gatefold.'

In January 1974, the band arrived at Mick's studio on the top floor of a building in London's Great Newport Street. When shooting the 'black' image in the style of the Dietrich portrait, he found that putting the idea into practice was more difficult than he'd first imagined.

'It's one thing shooting one person in that way, but quite another to get the other three guys in the picture,' he says. 'The tricky part was arranging them and the Polaroids from that shoot show that I took a while to figure out how to get it right.'

The band members were tightly arranged in a diamond formation, lit from above with one light. Guitarist Brian May, at the top of the frame, was standing on a ladder. 'They were very restless during the shoot,' Mick recalls. 'They were also not experienced in being photographed and, apart from



Mick Rock's
Queen II cover
shot, 1974





© MICK ROCK 1974, 2013

Freddie, were not great posers.'

Mick photographed several variations of the image with Freddie Mercury's hands in different positions and some with Brian May wearing a black lace veil. Freddie had also brought a mirror with an elaborate frame to the session and Mick shot one version of the image with the band reflected in the mirror (see above). He also shot a separate group of images showing the band dressed in white, against a white background.

Afterwards, there was some discussion about which images should be used. The music press had accused the band of being pretentious, and Brian, Roger and John were reluctant to put the striking and dramatically lit 'black' image on the cover. They preferred a much more sedate 'white' image. 'However, Freddie was never going to let that happen,' says Mick. 'When it came to things visual, the others would defer to him. In the end, the correct decision was made.'

The *Queen II* album, helped by its striking cover image, brought the band to a much wider audience and gave them their first top ten single, *Seven Seas of Rhye*. It was the beginning of a phenomenally successful career for the band.

In 1975, Mick's image was copied in the video of Queen's single *Bohemian Rhapsody*, directed by Bruce Gowers. The video's huge popularity and ensuing reputation obscured the fact that Mick had created the image. Happily for Mick, that situation has now changed.

'The passage of time changes things'



© MICK ROCK 1974, 2013

and I'm now more recognised as the person who shot that image, so I don't fuss about it' he says. 'I'm much better known than I was back then. I might not be as famous as Queen, but I'm not exactly obscure nowadays.'

In the 40 years since Glam Rock's heyday, Mick Rock has photographed generations of music stars and has achieved an almost legendary status in the industry. His *Queen II* cover shot is one of the most instantly recognisable images of the period. Inspired by classic 1930s Hollywood lighting, it epitomised a later but equally decadent age of glamour. **AP**

An alternative shot from the *Queen II* cover session

Events of 1974

4 March

UK Prime Minister Edward Heath resigns after the general election results in a hung parliament. Labour's Harold Wilson succeeds him

29 March

Farmers digging a well in Xi'an, China, discover the Terracotta Army of Qin Shi Huang. The sculptures had been buried since 210 BC

6 April

The 1974 Eurovision Song Contest is won by Swedish group ABBA with their song *Waterloo*. It launches their enormously successful career

8 August

As a result of the Watergate scandal, United States President Richard Nixon announces his resignation

9 August

US Vice-President Gerald Ford succeeds Nixon and becomes the 38th President of the United States. He declares that the 'long national nightmare' is over

23 September

The BBC launches Ceefax, the world's first teletext information service. It runs until the digital switchover in 2012

11 October

In the second UK general election, Labour wins with a three-seat majority and Harold Wilson continues as Prime Minister

30 October

Muhammad Ali takes on Heavyweight Boxing Champion George Foreman in the fight known as 'The Rumble in the Jungle'. Ali wins and regains his heavyweight title

21 November

Bombs explode at two pubs in central Birmingham, killing 21 people and injuring 182. The Provisional IRA is suspected, but doesn't claim responsibility



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Original



Loss of resolution



Grain added



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Riverscape Michael Williams

Nikon EM, 50mm, f/5.6, Kodak BW400CN

WHEN I first saw Michael's riverscape, I wasn't entirely sure what it was that I was looking at: was it a Polaroid emulsion transfer, perhaps? Maybe a tinted print from a paper negative? Or simply a shot taken with a low-resolution smartphone? Either way, I was drawn to the impressionistic scene with its muted blue-grey palette, gentle contrast and subtle vignette.

It transpires that the shot's origins were not as expected, as it was taken on Kodak BW400CN film using an all-manual Nikon EM 35mm SLR and standard 50mm lens. Kodak BW400CN is a chromogenic black & white film, which is processed using

standard C-41 (colour negative) chemistry. The negatives can then be printed onto colour paper, although rather than achieving a true black & white result (which is possible), it's more likely that subtle colour tints will be introduced, as they have been here: warm sepia or pale blue are most often seen.

This would suggest that Michael has scanned his prints (rather than the negatives), and my guess is that his scanner is responsible for the loss of resolution: dust and scratch removal at a high setting would be the most likely explanation, as it is not dissimilar to applying heavy noise reduction. However, I don't mind this at all. In fact, I

Cropped



would suggest that it adds to the 'vintage' appeal of the scene.

Having said that, I might be inclined to add a little 'grain' to prevent things looking too 'smeary', while cropping the image to a more panoramic format is also an option. Cropped or not, the end result

is a stylised image with a steely patina that matches perfectly the industrial subject, and that 'appropriateness of treatment' is a significant part of why I've selected this as my picture of the week: it might not be to everyone's taste, but that's not necessarily a bad thing.

Edited



The edited image, with grain added and in a panoramic format, perfectly matches the industrial subject

PICTURE
OF THE
WEEK

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Send up to six prints, slides or images on CD (please include the original files from the camera along with your submitted versions on your CD). Tell us about the pictures and include details of equipment used and exposure settings. Send your images to *Appraisal* at the address on page 3. Enclose an SAE if you want them returned

Tokyo underground

Evgeny Lazarenko

Canon EOS 450D, 30mm, 6secs at f/11, ISO 400

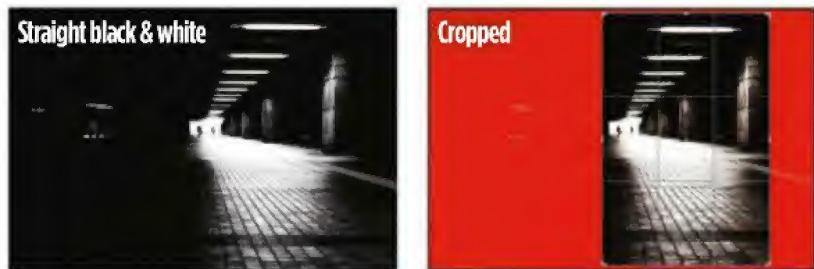
FOR HER high-contrast image of an underground passage in Tokyo, Japan, Evgeny combined a relatively small aperture (f/11) with a modest ISO setting (ISO 400), which has resulted in a motion-blurring 6sec exposure. This has created contrast between the blurred people at the end of the tunnel and the sharply defined architecture, which augments the contrast between dark and light (with few tones in between). The bronze tone gives it a lith-like appearance, which prevents it looking as 'cold' as a straight black & white image.

However, while the strong leading lines create a dynamic composition, for me all the detail and colour are in the right half of the shot, so in essence that is where 'the picture' is. Turning her camera through 90° and shooting an upright 'portrait' format image may have helped here, and a simple post-production crop demonstrates how the framing could be tightened up.

From a purely visual perspective, there's also an argument to be made for flipping the shot post-capture, so the shaft of light runs from the bottom left corner, up and to the right. This makes our visual journey along the path of light that little bit easier.

Original

While cropping removes some of the bland space surrounding the children, it accentuates the lack of sharpness of the overall image

**Straight black & white****Cropped****Edited****Flipped****Playing with stones**

Eleanor Dinneen

Canon EOS 400D, 148mm, 1/1250sec at f/11, ISO 800

ELEANOR'S photograph of two young children playing in the Shinyanga region of Tanzania is charming. It's a wonderful study of innocence, with two kids totally absorbed by whatever game it is they're playing. While some shots can be criticised for placing the subject centrally, here it doesn't matter one bit. The telephoto focal length has enabled Eleanor to really home-in on the characters, with nothing to distract us away from them – the dusty ground and colour-matching wall certainly don't draw the eye away from the action. Indeed, the pale stone at the bottom centre of the frame and the large stone toward the left edge are about the most distracting elements there are, and even those can be removed quickly using the Cloning or Healing tools.

However, I'd be inclined to remove the lower stone with a judicious crop instead. Holding down Alt+Shift (in Photoshop) maintains the proportions of the image and crops from the centre of the frame, ensuring that the subjects retain their central position. This eliminates some of the bland space surrounding the figures, making them larger and more prominent in the frame. Cloning also removes a couple of distracting pebbles.

Regrettably, cropping also makes it all the more apparent that the shot isn't as sharp as it needs to be. The fast 1/1250sec shutter speed would suggest that we can rule out camera shake as the cause, and shooting at f/11 should have provided sufficient depth of field to compensate for any slight focusing error, so it may well be that the lens itself is the culprit. The Exif data doesn't tell me the specific lens used, but a long-reaching, low-cost zoom of modest performance would be my guess, although it could simply be that a smudged fingerprint or two has taken the edge off the detail. Regardless of the cause, this beautifully observed photograph is compromised by that lack of definition: a clean lens, or a 'better' lens, could have made all the difference here.

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Developed by the renowned Nik Software, Snapseed is a powerful image-editing app that is easy to use. On-screen tips explain how to use swipe gestures to control different adjustments, which is very helpful. Cropping, frames, focus and tilt-shift effects, filters, sharpening and basic adjustments can all be carried out using this app. The best feature, however, is the selective adjust, which allows localised adjustments of contrast, saturation and brightness. Simply and effectively, this tool can really enhance an image. The new added Retrolux filters are among the best filters I've seen, giving a very pleasing vintage feel to the image.



Adobe Photoshop Touch

From £2.99

www.adobe.com/uk

Adobe has done a great job of cramming as many of the features of the desktop version of Photoshop as possible into its Photoshop Touch app, and even on a smartphone screen it is easy to use. Images can be layered, warped, cropped, resized or rotated. You can even add a gradient, lens flare or text to your image. Using the standard Brush tool, some effects, such as brightness and saturation, can be brushed on to create localised adjustments. There are also a number of artistic filter effects, which can be applied globally or locally.

Images can even be retouched via the Healing brush and Clone Stamp tools, and a range of selection features are also available, including the famous Magic Wand tool.

BEST
IN THE
GROUP



Pixlr Express

Free

pixlr.com

Pixlr Express is one of the most comprehensive image-editing apps on test. Some of the adjustment options include crop, sharpen, blur, focus effects, whiten, red-eye reduction, selective colouring and de-noise. All these can be changed in intensity with a swipe gesture. A large collection of filters can also be controlled in this way and, like the BeFunky app (right), these filters and effects can be stacked on top of one each other multiple times. While Pixlr Express also boasts stickers, borders and text overlays, the standout feature is the large collection of overlay layers. One of overlays is Chem Burn, which overlays your preferred Chem Burn to give a retro-looking, film-burn effect. Many other overlays are also available, from a bokeh effect right through to grunge layers.



FORTHCOMING TESTS

In the next few weeks AP hopes to run the following equipment through the most rigorous testing procedures in the industry...



Leica X Vario

Leica's Mini M premium compact features a 16.1-million-pixel, APS-C-sized sensor and 28-70mm (equivalent) zoom lens. We put it to the test.

AP 3 August



Olympus Pen E-P5

Its retro style is bound to turn heads, but what is the Pen E-P5 like to use? We test Olympus's 16.1-million-pixel compact system camera.

AP 17 August



Fujifilm's X-M1 is the cheapest and smallest Fujifilm X-series camera yet. We test the retro-styled 16.3-million-pixel compact system camera.

AP 24 August

TESTBENCH: SIX OF THE BEST

We look at six of the best cleaning tools to aid DIY sensor cleaning.

AP 10 August

BeFunky Photo Editor

Free

www.befunky.com

BeFunky Photo Editor is an image-editing app with a social network built in, though the app can be used without ever registering to the BeFunky social media site. A whole host of adjustments are available, along with filters, frames, borders and the ability to add text to an image. Once an image is loaded into the app, the adjustments can be made. These include rotate, straighten, crop, beautify, brightness, contrast, fill light, exposure, hue, saturation, colour temperature, sharpen, smart sharpen, blur, colour, matte and vignette. All of these adjustments can be controlled in intensity using swipe gestures. In addition, 29 different filters can be applied, which can also be controlled in intensity. After confirming a transformation, other filters or adjustments can be stacked on top of each other to create something unique.

Aviary

Free

www.aviary.com

Aviary is one of the most highly rated image-editing apps in the Google Play store, mostly for its simplicity but also for its features. Automatic enhancements can quickly be made to images, and in the free version there is a choice of 12 different filters. These enhancements include hi-def, illuminate and colour fix, and the filter collections are varied, with the option to buy further filter packs for as little as 61p. Cropping, frames, stickers, drawings and text can be overlaid onto an image and lots of adjustments can be made. Blemishes can be removed, teeth whitened and redeye reduced. Also, colour temperature, saturation, contrast and brightness can all be adjusted. Selective colour and sharpening can be applied, as well as focus blurring.

Photo Editor

Free

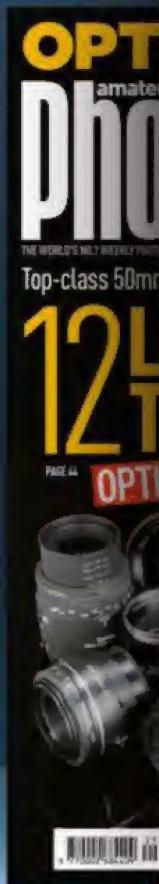
photoeditor.iudesk.com

Photo Editor is one of the more advanced editors available, but for Android only. For the beginner, it may be a little too advanced, but for anybody familiar with Photoshop it should be straightforward to pick up. It has many similar features to the Adobe package, including Curves and Levels, which can be adjusted for the entire image and in the separate red, green and blue channels. Photo Editor has a small selection of filters bundled under an Effects tab, some of which are artistic filters, although the majority are adjustments like Unsharp Mask. Other features include controllable perspective correction, white balance and a Clone tool that works in much the same way as in Photoshop. While other apps on test here have the fun factor, Photo Editor really means business.

amateur **Photographer**

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AP guide to...

Filters for landscapes

Filters are an essential part of every landscaper's kit, even in this digital age. **Lee Frost** looks at the ones you need and tells you how to make the most of them

HOW MANY times have you heard someone say, 'You don't need filters with a digital camera. Anything they can do, Photoshop can do better.' I've heard this old chestnut more times than I care to remember, but if it's true, why do all the top landscape photographers in the business still use them? And why, if filter use is declining, has Lee Filters – makers of some of the best filters in the business – had to take on more staff, install a new plant and start a night shift to cope with the backlog of orders for its products?

The answer is simple – landscape photographers need filters now, in this digital age, as much as they ever did. It's true that Photoshop can do the job of some filters, but it can't replicate the effects of all of them. Even if it could, would you rather spend your time chained to a computer or be out on location shooting more scenic masterpieces?

© Lee Frost

What has changed with the advent of digital technology is the type and number of filters we use. The days of gaudy-coloured grads, bits of plastic that added a rainbow to every shot and diffusers that smudged your images so badly you could barely tell what the subject was, have thankfully been relegated to the annals of photographic history. It's the same for colour correction and conversion filters, as the white balance or colour temperature can be adjusted instead. This is good news, because the more filters that are attached to a lens, the more the image quality is degraded.

However, certain technical filters remain essential. These include neutral density (ND), neutral density grads, polarisers and, to a lesser extent, skylight and UV. They help to control exposure, contrast and clarity, so the images we see on the back of our cameras are as close to the

finished product as they can be, without spending ages in post-production, as well as recording the scene in the way we intended.

This has to be better than waiting until you open the image on your computer, perhaps hours, days or even weeks later, to see if it has worked – and by then you may not even be able to remember what you were trying to achieve. For the relatively inexperienced, getting a shot right in-camera while on location is also preferable because mistakes can be corrected on the go, and new techniques and ideas can be undertaken while surrounded and inspired by beautiful scenery.

Many photographers steer clear of using filters because they don't really know which ones they need, why they need them and when to use them. Others can't be bothered with the hassle of carrying more kit, or they fail to see the sense in spending what can amount to hundreds of pounds on seemingly non-essential accessories. If you fall into any of these categories, read on and you will find that photographic life will never be the same again!





ROUND OR SQUARE?

Two main types of filter are available: round screw-in (Hoya, B+W and Heliopan) that attach directly to the lens; and square/rectangular (Lee, Cokin and Hitech) that slot into a holder attached to the lens.

Round screw-in filters are preferred for skylight/UV lens protection as they can be left permanently on the lens. However, as a system they're impractical, because once you start stacking two or three filters you will experience vignetting with wideangle lenses. If all your lenses don't share the same filter thread, you will also need to buy the same filter in different sizes or invest in stepping rings, and ND grad filters don't work in screw-in form because you can't adjust their position on the lens.

Slot-in filter systems are far more versatile as a system because you need only buy one holder plus adapter rings to fit each lens. You can also fit two or three filters in the holder at the same time with no increase in the risk of vignetting.

BUYING FILTERS

It's possible to find some amazingly cheap filter kits on the internet these days. For example, I found 24 Cokin P-compatible filters in a pouch for £22.99 and free delivery! At less than £1 per filter, that's tempting. The thing is, filters are optical accessories, so there's little point in buying expensive lenses then attaching cheap filters to them because the quality of the lens will degrade and the sharpness of the images will be reduced. Cheap filters may also produce colour casts that have to be removed during post-production.

Ideally, buy the best filters you can afford and look after them, so they provide years of service. Lee Filters offers a range of slot-in systems, as does Hitech and Cokin. In terms of size, for lenses with an effective focal length up to 20mm use a Cokin P-size kit (85mm), but for lenses wider than that use a 100mm system (Lee, Hitech 100, Cokin Z-Pro). For a 100mm kit, wideangle adapter rings for your lenses help to reduce the risk of vignetting. Also, for ultra-wide zooms such as 16–35mm with full-frame DSLRs or 10–20mm with crop sensors, opt for a two-slot holder (or make up a Lee Filters holder with two slots) rather than three for the same reason – you're unlikely to use more than two slot-in filters together and the third slot will increase the risk of vignetting.

There are various ways to use a polariser with a slot-in system. For Cokin, slip a Cokin polariser in the rear slot of the filter holder, but with Lee and Hitech a 105mm polariser has to be screwed onto a threaded ring attached to the front of the filter holder. This bumps up the cost of the polariser considerably due to its size, but it's far more practical than screwing a polariser to the lens and then attaching a filter holder to the polariser. Ideally, use a slimline 105mm polariser to reduce the risk of vignetting with wideangle lenses, such as the one made by Heliopan.

For those who don't want to spend a

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Lee Filters
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fortune on a polariser and who are unlikely to use one a lot in combination with NDs or ND grads, buy one that screws directly onto the lens. However, for those people who have lenses with different-sized filter threads, it may be more cost effective to buy a 105mm polariser for a Lee/Hitech filter holder as it can be used on all lenses.

Finally, if you're going to use skylight or UV filters to protect the front element of your lens, buy good-quality slimline ones, such as those from Hoya, Sigma, B+W and Tiffen, that have a thread on the front. In this way, you can also attach a filter holder.

FILTER TYPES: NEUTRAL DENSITY (ND) GRADS

How many times have you composed a great shot with a dramatic sky, only to discover when you check the image that while the landscape looks fine, the sky is washed out? Some photographers shrug their shoulders and think they will rescue it later, which is fine if there's something to rescue, but if the sky is so overexposed that no detail has been recorded, there won't be anything to rescue. A more sensible solution is to use a neutral density graduated filter.

ND grads are grey on the top half – the neutral density part – and clear on the bottom half. The idea is that the grey part of the grad tones down the brightness of the sky, so when you expose for the landscape the sky is also correctly exposed.

Grads come in the three main densities of 0.3, 0.6 and 0.9, which reduce the brightness of the sky by 1, 2 and 3 stops respectively. Some manufacturers also produce a 1.2 ND grad, which tones down the sky by 4 stops, and Lee Filters makes 0.45 and 0.75 ND grads, which darken the sky by 1½ and 2½ stops respectively.

The weakest ND grad, 0.3, is only useful when you need a very subtle effect, while the stronger 0.9 ND grad is mainly used at dawn and dusk when the sky is really bright. That just leaves the 0.6 ND grad, which is the best choice for general use. If in doubt, take a test shot with a 0.6 grad, check the image on the camera's preview screen, then switch to either a 0.3 or, more likely, a 0.9, if the effect isn't right. You can use two grads together for a stronger effect, such as a 0.3 and a 0.6 to produce a 0.9. ND grads shouldn't be overused, though, otherwise the sky will look odd. If you're using more than 0.9, the chances are you are overdoing it.

In the days before multi-zone metering, exposure readings had to be taken and set manually on the camera before an ND grad was placed on the lens, otherwise the image would be overexposed. In today's digital SLRs, however, you can compose the shot, align the grad ready for use and meter with it on the lens, which makes life easier.

There are two types of ND grad – hard and soft. This refers to the way in which the neutral density (grey) part of the filter graduates down to clear. With hard grads the change is quite sudden, whereas with soft grads it's gentle.



ND grads allow you to control the contrast between the sky and landscape



Without ND grad



With ND grad

Newcomers to ND grads assume that soft grads are easier to use because if you align them incorrectly it's less likely that you'll see the line of the grad in your shot. However, hard grads are quite forgiving, and also give a more defined effect, so they're easier to align.

There are two ways to align an ND grad.

One is to slide it down into the holder while looking through your camera's viewfinder. In this case you should see it darken the sky, and when the effect reaches the horizon it should stop. The other is to activate live view and align the grad while looking at your camera's preview screen.

ND grad filter



PHOTOSHOP VS FILTERS

IT IS possible to replicate the effects of some filters in Photoshop. The most obvious one is the ND grad, which is mainly used to prevent the sky from being overexposed. ND grads aren't precise and can leave telltale signs on uneven horizons, so some landscape photographers prefer to take two shots of the same scene – one with the sky well exposed (landscape too dark) and the other with the landscape well exposed (sky overexposed). The two shots are then combined in Layers and, using a Layer Mask and the Eraser tool, the overexposed sky is 'rubbed out' to reveal the well-exposed sky in the layer beneath. This can be time-consuming when the horizon is broken by features such as buildings, but it is more precise than using an ND grad. It all depends on how much time you want to spend at your computer.

The effect of an ND filter can't really be replicated because ND filters tend to be used to increase the exposure and

record motion in a scene. You can add a sense of motion using Motion Blur and Radial Blur filters in Photoshop, but not in the way an ND filter allows you to when shooting landscapes.

What about the polariser? Well, you can boost colour saturation very easily in Photoshop, and you can deepen blue skies by selecting and darkening it. You can even boost clarity and contrast using Levels and Curves. But what you can't do is remove glare and reflections in the same way as a polariser, although if you don't use one for that purpose, very often you may decide you can manage without one.

**Like these tips?
Take them with you!**

You can download all your favourite issues and have them to hand for easy reference while you're out and about.



Without polariser



© LEE FROST

With polariser



POLARISING FILTERS

When light strikes a surface, some of the rays scatter in all directions and become polarised, causing glare – which reduces colour saturation on shiny surfaces like paintwork and foliage – and reflections. Polarising filters prevent this by only allowing light rays that are travelling in one direction to enter your lens, so the polarised light is effectively blocked out. In doing so, a polariser offers three distinct advantages. First, a blue sky is deepened because it contains a lot of polarised light. Second, glare on non-metallic surfaces is reduced so the colours in a scene appear richer and more saturated. Third, reflections are eliminated, so you can see through windows and into water.

There are two types of polarising filter available: linear and circular. Both types do exactly the same job, but for digital cameras you need a circular polariser, which is manufactured differently to ensure correct exposure with cameras that have autofocus.

Using a polariser is easy because you can see the effect it has simply by rotating it slowly in its mount on your lens while looking through the camera's viewfinder. Blue skies go darker and white clouds stand out, reflections come and go, while glare disappears. When you're happy with what you see, simply stop rotating and take the shot. However, to get the best possible results, there are a few other factors to consider.

Although polarisers generally work best in bright, sunny weather, they can also be used in dull, overcast weather to remove glare and reflections. Woodland scenes usually look much better if you shoot them through a polariser as glare is reduced, so the rich colours in the foliage are revealed.

When using a polariser to deepen blue sky, keep the sun at a right angle to the camera so that you're aiming towards the area of sky where maximum polarisation occurs. In that way, you'll get the strongest effect. If the sun is behind you, or you're shooting into the sun, a polariser won't make much difference. Polarisation in the sky also tends to be better when the sun is low in the sky, so early morning and evening give better results than the middle of the day.

Polarisation is uneven across the sky, so

take care when using ultra wideangle lenses or zooms with a focal length wider than 24mm (16mm on crop-sensor cameras) as the sky in your images may be darker on one side than the other and the effect looks odd. This can be corrected in Photoshop, but it's tricky.

To remove reflections from surfaces such as water and glass, the angle between the reflective surface and the lens axis must be around 30°. You can find this by making slight adjustments to your position and then rotating the polariser to see what happens.

Polarising filters reduce the light entering your lens by 2 stops. This light loss will be accounted for automatically by your DSLR, so you don't need to compensate, but you need to be aware of it because the shutter speed can easily become very slow – even in bright sunlight – so the risk of camera-shake is increased when handholding the camera.

This light loss can be a benefit in situations where you want to use a slower shutter speed as the polariser acts like a 0.6 density ND filter. When shooting waterfalls and rivers, for example, the polariser not only gives you a slower shutter speed to blur the water, but also removes reflections from the water and glare from wet rocks and surrounding foliage.

NEUTRAL DENSITY (ND) FILTERS

ND filters reduce the amount of light entering your lens without changing the colour balance – hence the name 'neutral density'. They do a similar job to ND grads, but instead of affecting just part of the image they have a uniform effect on the whole picture.

ND filters are mainly used to increase the exposure required for an image, so you can use a slower shutter speed to record motion. The classic subject for which they're used is waterfalls, to record the moving water as a graceful blur, but they can be used to record trees or grass blowing in the wind, waves washing over rocks and so on.

The amount of exposure increase an ND filter requires depends on its density. The weakest ND worth bothering with is a 0.6 (4x), which requires a 2-stop exposure increase. A polarising filter also requires an exposure increase of 2 stops and so can



Polarisers deepen blue skies, saturate colours, reduce glare and eliminate reflections

be used like a 0.6 ND filter. Next up is a 0.9 (8x), which requires a 3-stop exposure increase, followed by a 1.2 (16x), which requires a 4-stop increase.

This is where the density of conventional ND filters stops, although you can combine two or more for a cumulative effect. For example, 0.6 and 0.9 ND filters together will require a 5-stop exposure increase.

The alternative is to invest in a more extreme ND filter, with a density of 1.8 (6 stops) or more. These filters were originally designed for photographing industrial processes that involved extreme brightness. However, in recent years they've become increasingly popular among photographers as they allow exposures of minutes to be used in broad daylight to create amazing motion effects – moving water turns to milk and drifting clouds record as delicate brush strokes of tone. The effects can look truly out of this world, but can result in beautiful fine-art images.

The most popular ND filter used for these effects is referred to as a '10-stop ND'.

ND filter



Below: ND filters allow you to use slower shutter speeds to record motion and add blur to an image



ND EXPOSURE CHART

IF YOU'RE using weaker ND filters, up to a 1.2 density, your camera's TTL metering will be able to give accurate exposure readings with the filter on the lens. Once density goes beyond 1.2, however, you may find that underexposure occurs because the filter density fools the camera's metering. To avoid exposure error, take a meter reading without the ND filter on the lens, then calculate the required exposure with the filter in place and set that exposure on your camera manually.

UNFILTERED

	With 0.6ND	With 0.9ND	With 1.2ND	With 3.0 (10-stop) ND
1/500sec	1/125sec	1/60sec	1/30sec	2secs
1/250sec	1/60sec	1/30sec	1/15sec	4secs
1/125sec	1/30sec	1/15sec	1/8sec	8secs
1/60sec	1/15sec	1/8sec	1/4sec	16secs
1/30sec	1/8sec	1/4sec	1/2sec	32secs
1/15sec	1/4sec	1/2sec	1sec	1min
1/8sec	1/2sec	1sec	2secs	2mins
1/4sec	1sec	2secs	4secs	4mins
1/2sec	2secs	4secs	8secs	8mins
1sec	4secs	8secs	16secs	16mins
2secs	8secs	16secs	32secs	32mins
3secs	16secs	32secs	1min	48mins
4sec	32secs	1min	2mins	1hr

because it requires an exposure increase of 10 stops (that's 1,000x more than the unfiltered exposure). The B+W 110 3.0 ND was the first '10-stop' filter to become popular, but the Lee Filters Big Stopper is now more practical to use because it slots into a Lee Filters holder rather than screwing direct onto the lens.

USING A 10-STOP ND FILTER

The first thing you'll notice when using a 10-stop ND filter is that it's so dense you can't see through it. To take a photograph,

you must therefore mount your camera on a tripod, compose the scene, set focus to manual as AF won't work through the filter, align your ND grad in its holder if you're using one, then finally, position the 10-stop ND. Some of the latest DSLRs have live view that's sensitive enough to see through a 10-stop ND, so if you need to adjust the composition or move the camera and shoot from a different spot, you may be able to do so with the filter in place.

The longest exposure you can achieve using your DSLR's programmed shutter



Left: 0.9 ND filter was used here to blur the incoming waves and add impact to the shot

Below: Lee Filter's Big Stopper is an extreme 10-stop ND filter that requires a 1000x exposure increase



speed range is 30secs, but more often than not you'll be using exposures much longer than that with the 10-stop ND, so you'll need to set your camera to bulb (B) in order to keep the shutter open. In fact, the whole point of using a 10-stop ND filter is so you can keep the shutter open for several minutes in broad daylight and record the passing of time in your images.

UV AND SKYLIGHT FILTERS

These types of filters tend to be used purely for lens protection these days, and many photographers leave one type or other permanently screwed onto the front of each lens so the front element is protected from damage. It's safer to wipe clean a filter than the lens itself and cheaper to replace a scratched or damaged filter than to get a lens repaired.

If you decide to protect your lenses in this way, buy good-quality skylight or UV filters from manufacturers such as Hoya, B+W or Tiffen, as cheaper brands may degrade your images. It's also a good idea to buy slimline filters so that if you decide to attach a filter holder to them, there's less chance of vignetting with wideangle lenses.

In addition to offering protection, skylight and UV filters block out some ultraviolet light, which is common on summer days and at high altitude, to improve the clarity of your images. That UV light can also cause a slight blue cast. Skylight filters have a faint pink colouring that gets rid of that blue cast, but with digital cameras you needn't worry as auto white balance (AWB) will eliminate it for you, or you can do so using software.

Either type is handy for lens protection and also if you tend to combine photography with hillwalking or mountaineering and often shoot from high altitudes.

Contact details

B+W (DayMen International), Merryhill Enterprise Park, Park Lane, Wolverhampton WV10 9TJ. Tel: 0870 444 6561. Website: www.bpluswfilters.co.uk.

Cokin (Intro 2020), Unit 1 Priors Way, Maidenhead, Berkshire SL6 2HP. Tel: 01628 674 411. Website: www.cokin.co.uk.

Heliopan (Teamwork Photo & Digital), 41-42 Foley Street, London W1W 8JN. Tel: 0207 323 6455. Website: www.teamworkphoto.com.

Hitech (Formatt Hitech), Unit 23 Aberaman Park Industrial Estate, Aberaman, Aberdare, Mid-Glamorgan CF44 6DA. Tel: 01685 870 070. Website: www.formatt.co.uk.

Hoya (Intro 2020), Unit 1 Priors Way, Maidenhead, Berkshire SL6 2HP. Tel: 01628 674 411. Website: www.intro2020.co.uk.

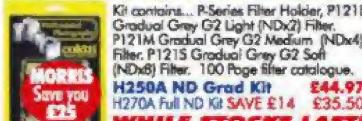
Lee Filters, Central Way, Watworth Business Park, Andover, Hampshire SP10 5AN. Tel: 01264 366 245. Website: www.leefilters.com.

Sigma, 13 Little Mundells, Welwyn Garden City, Hertfordshire AL7 1EW. Tel: 01702 329 999. Website: www.sigma-imaging-uk.com.

Tiffen, East Side Complex, Pinewood Studios, Pinewood Road, Iver Heath, Bucks SL0 0NH. Tel: 0870 100 1220. Website: www.tiffen.com.

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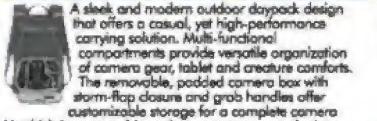
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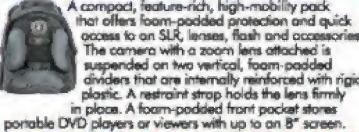
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Sony Cyber-shot DSC-RX100 II

Sony has upgraded its Cyber-shot DSC-RX100 premium compact camera, but is it possible to improve an already excellent camera? We find out

Callum McInerney-Riley
Technical writer

SONY announced its Cyber-shot DSC-RX100 II alongside the Cyber-shot DSC-RX1R (see test on pages 57-59) on 27 June this year. As the name makes clear, the RX100 II is an upgraded version of the original Cyber-shot DSC-RX100 that impressed us greatly when we tested it in AP 14 July 2012. It was part of the recent wave of advanced compact cameras and, for its size, it was top of the class for image quality.

Since the RX100's release, competitors such as the Fujifilm X100S and X20 have turned up, as well as the Nikon Coolpix A.

However, only the Fujifilm X20 is comparable in size to the RX100 II.

While much of the core design remains the same as the original RX100, Sony has listened to customer feedback and made some significant improvements. The company has taken an already successful, high-performance camera and made it better by improving sensor design and adding a tiltable LCD screen, Wi-Fi connectivity, a multi-interface hotshoe, and more.

FEATURES

Inside the RX100 II is an Exmor R 1in (13.2x8.8mm) sensor with the same 20.2-million-pixel resolution as the original RX100. However, this sensor now features back-illumination that Sony claims will improve low-light performance by a whole

AT A GLANCE

- 20.2-million-pixel Exmor R 1in sensor
- Carl Zeiss 10.4-37.1mm (28-100mm equivalent) lens
- f/1.8-4.9 lens
- 3in tiltable LCD screen
- Multi-interface hotshoe
- Wi-Fi and NFC

stop. Sony also claims that the sensor is approximately 40% more sensitive in comparison to that of the RX100.

Sony has continued to use the excellent Carl Zeiss 10.4-37.1mm (28-100mm equivalent) lens in the RX100 II, which has a very impressive maximum aperture of f/1.8-4.9 and a minimum of f/11. The aperture blades have a near-circular design, which gives very pleasing shallow depth of field with great bokeh when used at wider settings.

A few people considered Sony to have missed a trick with the RX100 by not including Wi-Fi at a time when other manufacturers were introducing it into their own cameras. Well, the company has rectified this by adding Wi-Fi connectivity to the RX100 II, which, of course, makes it easy to share photos directly with a smartphone or tablet and publish them online.

The new compact also supports remote shooting directly from a smartphone or tablet. Although settings cannot be altered when using a device, the zoom and shutter are fully operable. Interestingly, Sony has also provided Near Field Communication (NFC) connectivity.

'Sony's range of external flashes, microphones and the EV1MK EVF can all be used with the RX100 II'

 This allows NFC-compatible devices to instantly connect with the RX100 II without the need for passwords or extensive menu diving, just by touching the bottom of the camera.

A further great addition to the RX100 II is a multi-interface hotshoe, as we have seen recently in cameras such as the Sony Cyber-shot DSC-HX50 and the Sony Cyber-shot DSC-RX1/RX1R. The hotshoe has special terminals at the back which transfer more information to the camera than a regular hotshoe. This means Sony's range of external flashes, microphones and the EV1MK electronic viewfinder can all be used with the RX100 II.

9/10 

BUILD AND HANDLING

In the hand, the camera feels solid and sturdy, thanks to a notably well-constructed, all-black aluminium body measuring 101.6x58.1x38.3mm. Surprisingly, the addition of a tilting LCD screen has only increased the depth of the body by 2.2mm from the original RX100, so the new camera will still fit comfortably into the pocket of a pair of jeans or a shirt – something that most premium large-sensor compacts cannot do.

Some other changes from the previous camera have also been made. The positioning of the HDMI port has been moved from the underside to the right side of the camera, next to the Micro USB port. Another addition is the facility to select predetermined focal lengths simply by moving the lens control ring.

I paired my smartphone with the camera and I was able to both shoot and control the zoom directly from my device using the Play Memories mobile app. This is also possible using iPads and other tablets. The new NFC connectivity enabled me to touch the camera and my smartphone together and instantly connect the two devices. This is much easier than using standard Wi-Fi connection.

9/10 

METERING

Like most of Sony's compact cameras the RX100 II has multi-segment, centreweighted and spot metering modes. Across a range of different scenes the metering performed well, much like on the original RX100.

There are 176 different areas that can be selected for spot metering, which gave me great flexibility when shooting high-contrast scenes. In all its metering modes, I found

Facts & figures

RRP	£649
Sensor	20.2-million-effective-pixel, 1in (13.2 x 8.8mm), Exmor R
Output size	5472 x 3648 pixels
Magnification factor	2.7x
File format	JPEG [Standard, Fine], raw, raw+JPEG (Sony ARW 2.3 format)
Compression	2-stage JPEG
Colour space	Adobe RGB, sRGB
Lens	3.6x optical zoom, 10.4-37.1mm (28-100mm effective) Carl Zeiss Vario-Sonnar T* with 7 elements in 6 groups
Aperture	f/1.8-4.9, with 7 blades
Shutter speeds	30-1/2000sec
Image stabilisation	Still image: optical. Movie: active mode, optical type with electronic compensation (anti-rolling)
ISO	160-12,800 [Multi-frame NR: Auto – ISO 160-25,600]
Exposure modes	Program, aperture priority, shutter priority, manual, memory, iAuto, superior auto+, 180° sweep shooting, 14 scene modes, picture effects
Metering mode	Multi-segment, centreweighted, spot
Exposure comp	±3EV in 1/3 steps
White balance	Auto, 11 presets (including 4 fluorescent), custom
Drive mode	10fps continuous, speed priority continuous, self-timer (10sec/2sec delay), self-timer (cont.), self-portrait one-person, self-portrait two-person (with 10sec delay, 3/5 exposures), bracketing
LCD	Tiltable 3in, 1.23-million-dot, TruBlack TFT LCD
Focusing modes	Single-shot AF (AF-S), continuous AF (AF-C), direct manual focus (DMF), manual focus
AF points	Multi-point (25 points), centreweighted, flexible spot, spot tracking, spot face detection
Built-in flash	Yes
Video	AVCHD: 50p/60p, 50i/60i, 24p/25p. MP4: 25p/30p. VGA: 25p/30p
External mic	Yes
Memory card	SD, SDHC, SDXC, Memory Stick Pro Duo, Micro SHDC

SONY, The Heights, Brooklands, Weybridge, Surrey KT13 0XW. Tel: 01932 816 000. Website: www.sony.co.uk



RESOLUTION AND NOISE CONTROL

These images show 72ppi (100% on a computer screen) sections of images of a resolution chart, captured using the 50mm focal length at f/3.2. We show the section of the resolution chart where the camera starts to fail to reproduce the lines separately. The higher the number visible in these images, the better the camera's detail resolution at the specified sensitivity setting.



the RX100 II to be very accurate. There is a ±3EV compensation dial but I only needed to alter this for creative control rather than metering correction.

8/10 

DYNAMIC RANGE

Compared to a typical compact camera, the dynamic range of the RX100 II is very good, aided by its 1in-type sensor. A high level of detail is retained in both shadow and highlight areas, and a large amount of detail can be recovered from raw files.

I browsed through all my images taken with the RX100 in Adobe Lightroom 5 and, by using Lightroom's highlight clipping warning, I noticed there were hardly any blown highlights. I was also very impressed with the amount of detail retained by the RX100 II, and in Adobe Lightroom 5 I

was able to tweak some high-contrast landscapes to make highlight detail more prominent, particularly in the skies.

9/10 

AUTOFOCUS

No changes have been made to the AF system for the RX100 II. In good light, focus is very snappy, and while it is a little slower in low-light situations, it still focuses accurately and at a decent speed.

Focus tracking is impressively accurate, allowing me to lock onto flowers that were swaying in the wind; I was able to select my focus point, frame the shot and wait for the optimum time to take the picture. On top of this, manual focusing is possible using the lens ring, and focus peaking aids accuracy.

7/10 



NOISE, RESOLUTION AND SENSITIVITY

The previous RX100 scored an impressive 28/30 on noise, resolution and sensitivity, and overall image quality was much better than the competition. This was due to its large 1in (13.2x8.8mm) sensor, which was considerably bigger than the 1/1.7in (7.6x5.7mm) sensors found in the Canon PowerShot S110 and the Panasonic Lumix DMC-LX7. For the RX100 II, Sony has back-illuminated the sensor to allow more light to reach the photodiodes. This means the sensor can gather around 40% more light and is capable of a whole extra stop of noise suppression in comparison to its predecessor.

Due to this suppression of noise, the RX100 II now has an expanded sensitivity range of ISO 160–12,800, or up to ISO 25,600 when using the multi-frame noise reduction mode.

At the lowest sensitivity setting of ISO 160, slight luminance noise is present in areas of low detail in both JPEGs and raw files. At ISO 2000, there is no colour noise but luminance noise starts to become noticeable. The JPEG images do appear slightly smudgy at upwards of ISO 2000 but this doesn't become an issue until ISO 3200.

29/30

WHITE BALANCE AND COLOUR

Images straight from the RX100 II have great colour rendition without appearing oversaturated. Only in challenging situations where it is expected that the camera will struggle to achieve true colour rendition did I find that was there a need to change from AWB. There are 10 presets to choose from, including four for fluorescent light.

Overall, the colours were very accurate and consistently true to the scene. When

shooting landscapes, skies were punchy and colour-correct most the time.

8/10

VIEWFINDER, LIVE VIEW, LCD AND VIDEO

Like the original RX100, the RX100 II carries a 3in, TFT LCD screen with an impressive 1.23-million-dot resolution. However, customer feedback has seen the addition of a tilt function capable of an upward angle of 86° and a downward angle of 45°. This makes shooting from waist-level or at a high angle much easier.

The introduction of the multi-interface hotshoe allows the use of Sony's EV1MK EVF. Though brilliant to have, at £360 it is



The minimum focusing distance is 5cm at the widest focal length while at the longest focal length it's 55cm. This is not ideal for macro work, although 20.2 million pixels allows for satisfactory cropping

Above right:
The metering finds a great balance between foreground and skies, with no highlight detail lost

an expensive option for most enthusiasts. Below the mode dial is the movie record button, which will shoot movies at full HD 1080p resolution, at 60p, 60i or 24p and saves as AVCHD or MP4. Manual controls are available in this mode.

9/10

Verdict

ON PAPER, the Sony Cyber-shot DSC-RX100 II could appear to be a simple upgrade but it is far more than that. As a result of customer feedback about the original Cyber-shot DSC-RX100, lots of very useful features have been implemented or improved for use in the RX100 II. These additions unlock a huge amount of potential from an already brilliant camera.

The previous RX100 was class-leading for being pocketable, easy to use and customisable, and for its impressive image quality. The RX100 II is no different, ticking all these boxes but with reduced noise and therefore better performance in low light due to its new back-illuminated sensor. The NFC and Wi-Fi connectivity is among the best available, and on top of all that, the camera is compatible with Sony's external flashes, microphones and other accessories.

The RX100 II has a wealth of manual controls that are all customisable, yet it remains easy to use. This is a great camera for both beginners and more advanced users.

**Amateur
Photographer**

Tested as an
Advanced compact
Rated Very good

88%

1	2	3	4	5	6	7	8	9	10
FEATURES	9/10								
BUILD/HANDLING	9/10								
NOISE/RESOLUTION	29/30								
DYNAMIC RANGE	9/10								
AWB/COLOUR	8/10								
METERING	8/10								
AUTOFOCUS	7/10								
LCD/VIEWFINDER	9/10								

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Q When did you first become interested in photography?

A I have been interested in photography ever since I saw my first digital camera. It was a Kodak model that took about 16 so-called high-resolution photographs that were, in fact, less than 1 million pixels each. You could transfer the photos over by USB cable to a computer, and I saw in it the potential for photographing my own images for my Photoshop work.

Q What do you enjoy most about photography?

A I enjoy trying to capture the world from an unusual angle and seeing the world in a different way to the normal everyday view of the world around us.

Q What are you hoping to achieve with your

photography in the future?

A I just want to be a better photographer. I have been interested in photography for years, but I have only just recently made the decision to move from 'snapper' standard up to higher standard. I also want to create effects in the photograph rather than having to take it into Photoshop and manipulate my work there.

Q Where is the most enjoyable location to take photographs?

A I enjoy landscapes and urban architecture. I like photographs that have a bit of a dystopian feel to them.

Q Why did you decide to enrol on the SPI course and how have you enjoyed it so far?

A I wanted to accelerate my learning time. I have used the SPI course as the main part of this, but I have also followed a lot of photography-based YouTube channels. I have enjoyed the SPI course and like the way it covers the basics that you need to know to 'up your game'.

WE SAY David's module submissions are always a pleasure to mark and it is clear that he pays a lot of attention to what the course framework stipulates. He obviously has a passion and enthusiasm for photography and this really stands out in his images. David also produces photographs with a lot of good variety, which depicts a sound knowledge and understanding. He is certainly continuing to make tremendous progress. Keep up the good work!



Sony Cyber-shot DSC-RX1R

Sony's Cyber-shot DSC-RX1 was one of the most talked about cameras of 2012, but now the **RX1R** has had the anti-aliasing filter removed from its 24.3-million-pixel, full-frame sensor. We find out just how much difference this makes to image quality



Richard Sibley
Technical editor

ANNOUNCED just a few weeks ago, the Sony Cyber-shot DSC-RX1R seems to be the perfect union between two of the biggest trends in digital camera technology. Based upon the original RX1 released last

year, the RX1R is a compact camera with a DSLR-sized sensor, but with no anti-aliasing (AA) filter. As these features are two of the biggest talking points of the past few years, the RX1R looks to be an intriguing camera.

One of the most interesting things about the RX1R is that Sony has said it will cost the same as the standard RX1: £2,599. Most other manufacturers charge a premium for a version of a camera without an anti-aliasing filter, with Pentax being a

good example offering the K-5 II DSLR for around £120 less than the filter-free K-5 II S. Nikon's D800E actually has a second anti-aliasing filter that reverses the effect of the first, producing the same results as if the anti-aliasing filter weren't there at all, although this costs over £300 more than the standard D800. While it may only be a small point, it is good to see that Sony is setting a precedent, especially given that the RX1 already costs £2,599.

FEATURES

As stated, the new RX1R is almost identical to its older sibling, the RX1. The original camera caused a stir when it was launched in 2012, as it was the first compact camera to feature a full-frame sensor. Both the RX1 and RX1R use a 24.3-million-pixel, full-frame, Exmor CMOS sensor, with a Sony Bionz processor responsible for running the camera and processing the data from the sensor.



The processor allows a sensitivity range of ISO 100–25,600, extendable to ISO 50. When using multi-frame noise reduction, which combines a short burst of images into a single image, the sensitivity can be increased to ISO 102,400.

The second most important feature found on the RX1R is its fixed Carl Zeiss Sonnar T* 35mm f/2 lens. In our test of the RX1 (AP 19 January), we found that the combination of sensor and lens produces superb images, and overall the premium compact camera scored very highly. The RX1R has an identical set of features, but with the anti-aliasing filter removed, which should improve detail resolution, although it may also increase the likelihood of moiré patterning appearing in areas of images featuring densely packed lines.

BUILD AND HANDLING

The build of the RX1R is identical to the RX1, with both cameras having a metal body and a multi-interface hotshoe to mount either a flashgun, or Sony's optical or electronic viewfinders. The camera handles excellently, with a simple button arrangement and equally easy-to-use on-screen menu. The exposure-compensation dial makes it quick to adjust exposures, and



having an aperture ring on the lens helps to recreate the feeling of using a more traditional film camera, particularly when the optical viewfinder is also in use.

There is also a focusing ring on the lens, although this is an electronic fly-by-wire, rather than a mechanical system. Manual focusing is aided by display magnification

The RX1R's fixed 35mm lens and compact design make it ideal for street photography

and focus-peaking. Another nice touch that enthusiast photographers will appreciate is the traditional remote-release screw thread on the shutter button.

With the two cameras being so similar, the focus of this article will be on the difference the anti-aliasing filter makes to the amount of detail that the RX1R can resolve compared to the RX1. This will also take into account whether moiré patterning is an issue and, if so, which type of photography it is most likely to affect.

MOIRÉ PATTERNING

One of the main purposes of the anti-aliasing filter (or low-pass filter, as it is also known) is to reduce moiré patterning in images. This patterning occurs when two linear grids are overlapped out of alignment with each other. One common example of this phenomenon is when photographing net curtains. Where the grid mesh of the curtains overlaps, a new concentric pattern appears to be created.

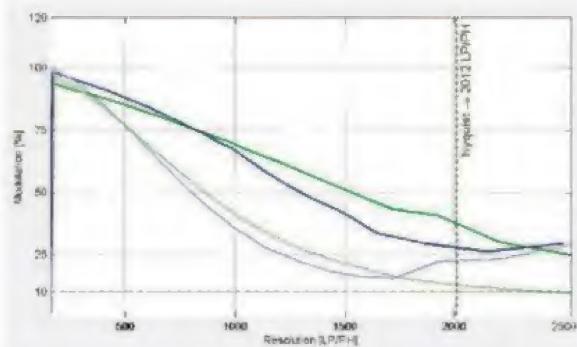
The same thing occurs when the grid array of a digital camera sensor is exposed to a similar linear pattern, such as tightly woven fabric or intricate brickwork on a building. The anti-aliasing filter is designed to blur the image slightly, and the stronger the filter, the more the image is blurred,



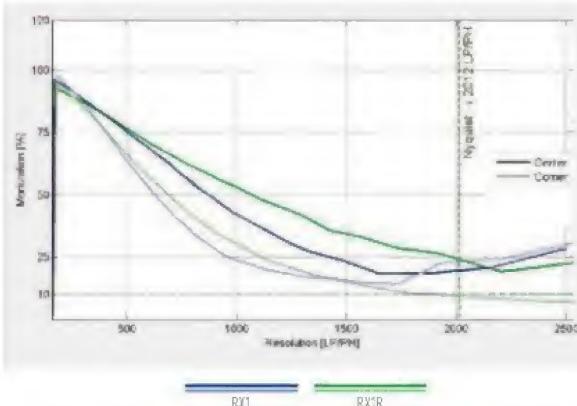
Suggested retail price	£2,599
Sensor	24.3-million-pixel, 35mm, full-frame, Exmor CMOS sensor
Output size	6000 x 4000 pixels
Lens	35mm f/2 Carl Zeiss Sonnar T*
Shutter speeds	30-1/4000sec
ISO	ISO 100-25,600 [expandable to ISO 50-25,600 and ISO 100-102,400 in multi-frame noise reduction]
Exposure modes	Program, aperture priority, shutter priority, manual, memory, iAuto, Superior Auto+, 180° sweep shooting, 14 scene modes, picture effects
Metering system	Multi-segment, centreweighted, spot
LCD	3in, 1,228,800-dot, TFT LCD
Focusing modes	Single, continuous, manual and direct manual
AF points	Multi-point [25 points], centreweighted, flexible spot, spot tracking, spot face detection
Weight	482g [including battery and card]
Dimensions	113.3 x 65.4 x 9.6mm

Sony, Jays Close, Viables, Basingstoke, Hampshire RG22 4SB. Tel: 0844 8466 555. Website: www.sony.co.uk

Facts and figures



Shot at f/4, the green lines represent the centre and corner sharpness of the Sony RX1R, while the blue lines represent the centre and edge of the RX1. It is clear that the RX1R can resolve more detail fine detail



When shooting at the maximum aperture of f/2, both cameras resolve a lot of detail. However, once again the RX1R has the advantage

with different manufacturers using different strengths of filter depending on the sensor used. The slight blurring is usually enough to remove moiré patterning completely, although it does of course impact on image sharpness. The anti-aliasing filter is one of the reasons why digital images require sharpening.

With no anti-aliasing filter, moiré patterning is something that has to be considered when judging the image quality of the RX1R. I did find that I was able to see the effects of moiré patterning in my images when shooting a scene that included the edge of a closed book showing the stacked pages. When shooting JPEG files on the RX1, the image shows some of the fine lines of the pages in the book. The RX1R image is a little sharper, but the fine line of the book's pages have a strange cross-hatched pattern running through them.

A dress with a fine houndstooth check pattern caused even more of an issue, with swirled coloured moiré patterning on the image taken with the RX1R. The same image taken with the RX1 also displays moiré patterning, but the effect is softer, as is the amount of detail displayed in the image. Of course, the strength of the patterning, and even whether it occurs at all, is also affected by the distance from the subject. When taking a portrait, it may

'Moiré patterning is the downside of the lack of an AA filter, but increased detail resolution is the main benefit'

be possible to reduce moiré patterning on a dress by simply moving slightly closer to the subject. However, it obviously isn't ideal to have technical issues dictating the composition of an image.

Using Adobe Photoshop Lightroom 5's localised moiré reduction tool, I was able to remove almost all the moiré patterning in the dress in the image taken with the RX1R (see below). This removed the false colour patterning quite easily. If you weren't previously aware of the moiré patterning you would struggle to find it, but if you know where to look then it is still visible, just reduced in strength.

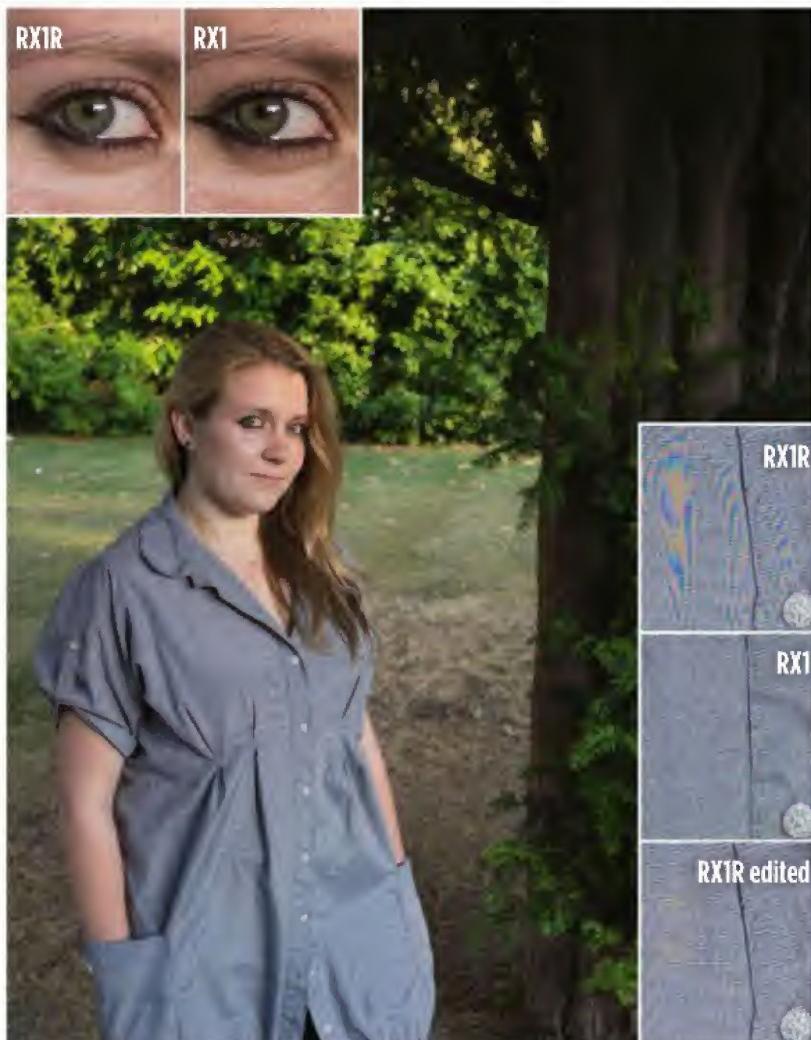
Sony's product manager was quite open about moiré patterning at the launch of this camera, saying this would be an issue for some photographers. He also stated that whether or not it would be a problem depends on the type of photography

the camera is used for. If you only ever shoot landscapes, you may never see any moiré patterning in images from the RX1R. However, portrait, fashion and even some architectural photographers may find themselves at the mercy of moiré. Thankfully, the latest software seems to be very efficient at removing the patterning, although it may be time consuming if you have to remove it from a number of images.

RESOLUTION DETAIL

While moiré patterning is the obvious downside of the lack of an anti-aliasing filter, the increased detail resolution is the main benefit. Looking at images taken with the RX1 and RX1R, there is a clear advantage to shooting with the RX1R. Images look crisp, with excellent definition and detail.

A closer inspection of raw images taken with the RX1R reveals details that are not visible with the RX1. While editing in Lightroom 5, I found that raw images taken with the RX1R need hardly any sharpening. In fact, it is easy to create an oversharpened image as just a small nudge of the sliders is all that is needed. Conversely, images from the RX1 can withstand more extreme sharpening as they are slightly softer out of the camera. However, sharpening doesn't make details appear – it just increases the contrast of edges to give the image a little more 'bite'.



The fine houndstooth chequered pattern of this dress proves difficult for both cameras. However, the anti-aliasing filter of the RX1 reduces the issue, resulting in softer moiré patterning. The RX1R moiré is very severe, but the bottom pull-up shows that it can be removed fairly easily, or at least reduced in Adobe Camera Raw

Verdict

WITH the Cyber-shot DSC-RX1R, Sony has taken one of the best digital compact cameras available in the form of the RX1, and offered photographers an alternative. Whether it is better or worse than the RX1 depends on what you do with the camera. The removal of the anti-aliasing filter does what you would expect it to, and raw images especially have a superb amount of detail. However, the moiré patterning will be an issue for some photographers who specialise in portraiture, fashion or architectural images. For them, extra detail will be outweighed by the time taken to remove any moiré patterning.

That said, when taking street and landscape photographs, I struggled to find moiré patterning in my images. It was only when I deliberately photographed such patterns that it became a problem, so for most enthusiast photographers it shouldn't be an issue, particularly considering the extra resolution the RX1R offers. In reality, the RX1R offers photographers a different tool to do a different job.

Ask AP

Let the AP team answer your photographic queries



DARK PRINTS

Q My prints are darker than the image I see on the screen. As my Canon Pixma IX5000 inkjet printer (pictured above) has only four different inks, I have in the past sent my images off to be printed by professionals. The results were also rather disappointing and much darker than the image I saw on-screen. Getting the colour right is critical and I can't afford to experiment with large prints made by professionals. This really put me off for a couple of years.

Recently, I had my monitor calibrated. As my own printer isn't really up to the job, I thought that if I calibrate my monitor then at least the prints I get back from a professional lab will be the same as I see on-screen. However, after this calibration the pictures still look much darker than the image on the screen. Is there any way I can see on-screen what I am going to get back from the printers?

Jonathan Halls

A You've done the right thing by calibrating your monitor, but you should also double-check that the gamma is set correctly (2.2 is the 'standard'), and the brightness and contrast. These are typically set manually when you calibrate a monitor, and given that it is not just your home printer but also your lab-produced prints that appear dark, it's feasible that you're simply looking at an overly bright image on-screen in the first place.

One way of checking this, without recalibrating your monitor, is to open up an image on-screen that is neither overly light nor dark. Something with a bright-blue sky and sunlit grass, or a person so you can gauge their skin

tone, is ideal because we all have an idea of how these should look. Then, with the image looking 'correct' on-screen, check the histogram. If the graph seems shifted to the left, then the image is, despite its on-screen appearance, too dark. Your monitor may look as though it's correct, but the histogram won't lie.

However, if all this seems OK, then I would need to take a look at the images themselves to see if there's anything amiss. However, the fact that you're getting dark results from two independent sources does suggest that the brightness of the images you're looking at on-screen is the most likely culprit.

Chris Gatcum



The Mac Mini is available at www.apple.com/uk/mac-mini, with a 500GB or a 1TB hard drive

ASK...

Be it about modern technology, vintage equipment, photographic science or help with technique, here at AP we have the team that can help you. Simply email your questions to: apanswers@ipcmedia.com, via Twitter @ap_answers or by post to: **Ask AP, Amateur Photographer Magazine, IPC Media, Blue Fin Building, 110 Southwark Street, London SE1 0SU.**

IN SEARCH OF AN APPLE

Q I am looking to replace my old desktop Dell computer. As I understand it, an Apple Mac should provide a better quality of use and results for my photography hobby. However, a desktop Mac costs up to three times the price of a standard desktop computer. I have found that Mac makes a model called a Mini, which is directed at the home user rather than the professional, costing £500-£680. Would this do all I want to do regarding photo transfer, editing in Photoshop and photo printing? **Gerald Peppiatt**

A I use a Mac Mini for my day-to-day work, which includes photo editing, so I'd say 'yes' to a modern Mini being up to transferring and editing your photos. However, before you rush off to buy one, may I first dispel the idea that Macs are 'better' than all Windows PCs?

The bottom line is that Mac and Windows PCs are machines designed to process information. Setting the operating systems aside for a moment, the fundamental difference between computers is the specification: depending on the speed of the processor, the amount of RAM installed, the graphics card and other subtleties, some computers work faster than others or can deal with more complex tasks. With this in mind, a well-specified Windows PC will outperform a low-end Mac, just as a high-end Mac will eclipse an entry-level Windows PC.

FROM THE AP FORUM

Looking for a travel camera

AWM asks My background is in video, but I take stills with my Nikon D200. I think it's time to move on from that camera now, so I can shoot both still photography and video with one camera. The last time I looked into this was a few years ago, when everyone was raving about the Canon EOS 5D and EOS

AP GLOSSARY

COMPUTING TERMINOLOGY

Buying a new computer opens up a world of acronyms and jargon, so over the next few weeks we will look at the key terms you are likely to encounter.

PROCESSOR: Also referred to as the CPU (Central Processing Unit), the computer's processor is its 'brain', which is where any and all calculations take place. In digital photography, the faster the processor is, the quicker the computer will be able to perform editing tasks on your images. Fast processors are most useful when it comes to 'intensive' tasks such as handling multiple images for the Brenizer Method (see AP 20 July), as a slow processor may simply be unable to perform the task. The measurement of a processor's speed is given in GHz (gigahertz) and the higher the number, the faster the processor.

RAM: Random Access Memory is where the programs on your computer store data temporarily so it can be

worked on. For example, if you want to edit an image, your editing program will load it into the computer's RAM. The greater the amount of RAM, the more data can be stored in it, enabling larger image files to be handled, or multiple programs to be activated at the same time. When you close a program or file (or shut your computer down), any data associated with it is removed from the RAM. Memory is typically measured in gigabytes (GB) and with today's high-resolution cameras 2GB should be considered the minimum requirement, with 4GB or 8GB being preferable. Most computers will allow you to add additional RAM to improve performance and this is often the best option to consider upgrading.

There are, however, a couple of key differences. First, only Apple manufactures and supplies Macs, so what you get with a Mac is consistency when it comes to the components inside the computer, whereas some Windows PC manufacturers source the lowest-priced parts they can. As a result, Macs tend to be seen as being more reliable than Windows PCs, but given that the quality of Windows PCs can vary so widely, this is perhaps unsurprising.

Also different is the operating system. Both operating systems have their niggles, and neither is perfect. One thing that's often

cited (by Mac owners) is that Windows is more prone to viruses, which is true simply because there are more Windows users in the world, so it's a much larger target. Anti-virus software and firewalls can keep you protected from most of these nasties, so it's no longer a 'deal breaker'.

So, to return to the question of whether a new Mac Mini will serve your purpose, my answer is 'yes', but please don't be fooled into thinking that a Mac is somehow going to make your photos 'better' in any way – that's still 100% down to the person using it.

Chris Gatcum

7D, and my intention was to buy one of these when I had the money. Now I'm ready to buy as I have a budget of £5,000, allowing for insurance and decent lenses.

My intentions are to find a practical camera with an interchangeable lens that is realistically portable, and able to take decent stills and shoot professional video. I've lost touch with the camera world for the past two years, so what make and model do people advise me to buy?

willie45 replies If video is important to you, then Canon would be the way to go. The reviews I've read suggest it trounces Nikon in this respect. The Canon EOS 5D Mark III is probably the best all-round camera on the market at the moment.

Roger Hicks replies Despite having used Nikons for around 40 years, I have to agree that Canon has the better reputation for video.

ianwaite replies The Canon EOS 5D Mark III with 24-105mm kit lens is a great set-up, especially for travel photography and video.

P_Stoddart replies I have seen some comments that the Sony Alpha 99 might beat the Canon EOS 5D Mark III in terms of HD video. If you look at the specifications, the Alpha 99 can shoot 1920x1080 pixels at 50fps (the EOS 5D Mark III shoots at 30fps); the Alpha 99 has stereo microphones (the EOS 5D Mark III has mono); and the Alpha 99 uses MPEG-4 AVC, H.264 (the EOS 5D Mark III has only H.264). However, the Canon has a much bigger lens catalogue.

In next week's AP

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DOCUMENTARY



LIFE IN THE BIG APPLE

We join street photographer **Daniel Love** on his daily commute through New York City

AP GUIDE

MULTIPLE EXPOSURES

Doug Chinnery reveals the tricks of multiple-exposure landscapes



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Martin Evening explains how to remove moiré patterns using Lightroom

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35mm f/1.4 DG HSM

Many avid photographers will prefer this 35mm lens to the more conventional 50mm. Using a leading edge design and state-of-the-art production technology, the performance of this lens has been honed to the point where it can do full justice to the expressive power of the very latest digital cameras.



Only £699.00 Sigma 67mm DG MC UV filter
only £24.00 with this lens!

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SIGMA

17-70mm

f/2.8-4 DC Macro OS HSM
Mainly used for general-purpose photography, this everyday lens covers a range equivalent to 25.5-105mm on a 35mm camera.



A large-aperture lens that opens up to f/2.8, it's surprisingly compact in size.

Only £349.00 Sigma 72mm DG MC UV filter
only £29.00 with this lens!

SRP £449.99

SIGMA

120-300mm

f/2.8 DG OS HSM

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Nikon D5200 & D600 Cashback* ends 31.07.13

CUSTOMER REVIEW: D600 Body
"Superb replacement for D700"
Aiphotoan - N.W. England

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The D7100 is a 24.1-megapixel camera with an EXPEED 3 image processor and together they are capable of delivering lifelike full resolution stills at 6fps and full HD 1080p video recording at 30p, 25p or 24p. Other features include an ISO range of 100-6400 (expandable to HI-2 25,600), 51 Auto Focus points (15 cross types), a 3.2-inch LCD, an optical viewfinder with 100% coverage, dual SD card slots and a 1.3x crop mode.

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NEW! D7100

From £929



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D4 Body £4239

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• 1080p Full-HD Movie Recording

D7000 Body £583

D7000 + 18-105mm VR £739

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A65 From £499.99
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A99



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NEW! E-P5 + 17mm £1349
+ VF-4 Electronic Viewfinder

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E-PL5 + 14-42mm + 40-150mm £649
E-PM2 + 14-42mm £399
E-PM2 + 14-42mm + 40-150mm £539

OM-D E-M5



OM-D E-M5 From £795

OM-D E-M5 Body £795

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Olympus 75mm f1.8 PW EZ £729
Olympus 45mm f1.8 £218

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K-S II + 18-55mm WR £799

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NEW! K-500 From £449

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With a large 16.3MP APS-C X-Trans CMOS sensor with the addition of an articulated 3.0" LCD screen and Wi-Fi, this model also provides a continuous shooting at 5.6 fps and a start-up time of 0.5 seconds and shutter lag of just 0.05 seconds.

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X-M1 + 16-50mm £679

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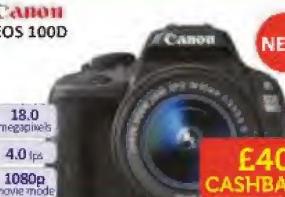
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NEW! 70D From £1079



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5.3 fps
1080p movie mode

60D From £603



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18.0 megapixels
8.0 fps
1080p movie mode

7D From £1079



Canon EOS 6D

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4.5 fps
1080p movie mode
Full Frame CMOS sensor

6D From £1549



Canon 5D Mark III

22.3 megapixels
6.0 fps
1080p movie mode
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CUSTOMER REVIEW: 60D + 18-135mm f3.5-5.6 IS £1079 ...a great camera to start your DSLR journey with! M. Swindge - Essex

CUSTOMER REVIEW: 7D + 24-105mm f4.0 L IS USM Great Canon DSLR upgrade! Mickeybox - Yorkshire

CUSTOMER REVIEW: 6D + 24-105mm f4.0 L IS USM Taking the leap to FX format! Molly - Worcestershire

CUSTOMER REVIEW: 5D Mark III + Mind blowingly clear photography! Zelio - Ireland

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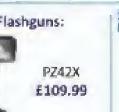


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ROGER HICKS

What we like and what we don't like isn't quite as simple as it sounds, as there are various kinds of pleasure and enjoyment

CONSIDER pleasure and enjoyment. The two are not quite the same, but they are close enough for the purposes of the forthcoming argument.

There are at least three kinds of both. There are things that are enjoyable at the time, such as eating a good meal. There are things that give only indirect pleasure, the pleasure of results. Consider, for example, tidying the garage, or working at a tedious job in order to earn money. A third form of pleasure, albeit more disputable, inheres in things that are not at all enjoyable at the time, but enjoyable in retrospect: things where we say, as we have all said, 'I didn't enjoy it at the time and I don't think I'd do it again, but I'm glad to have done it.' Examples might include bungee jumping, Russian roulette and getting a law degree.

The first and third kinds are necessarily mutually exclusive: either you enjoy something at the time, or you don't. Yet the first and second kinds of enjoyment, or the second and third, can be experienced simultaneously over the course of pursuing a single activity. Perhaps needless to say, the 'single activity' I have in mind is photography.

For the first pleasure, we have all had the experience of picking up a favourite camera – in itself a pleasurable activity, for its ergonomics, its precision, its elegance – and shooting pictures on a perfect day. Enthusiastic fishermen might liken it to fishing: they say that the fishing itself, sitting on the riverbank on a sunny day, is so pleasurable that it really does not matter whether they catch any fish. I'd rather take pictures than torture harmless fish by shoving hooks through their lips – fishing is, after all, a blood sport – but I am prepared to take their word for the way they feel.

For the second, the pleasure of results, perhaps the best example is image processing. Some may enjoy the ritual of loading the spirals, measuring out the chemicals, processing the film. I don't, but I do enjoy looking at the negatives and subsequently the prints. The same is true of sitting at my computer, working the Crop tools, gradients, sliders and brushes in Adobe Photoshop or Lightroom. I don't enjoy that, either, but I do like the final results.

Of course, there are those who say, 'I can't be bothered with all that. I just want JPEGs out of the camera,' but I can't understand their world picture any more than I can understand the world picture of those who say, 'No one should ever post-process their pictures: it's cheating.' To me, this smacks of laziness and stupidity, and a dangerous weakness for instant gratification. By the same token, painting must also be cheating, because you have to learn what you're doing, decide how you want to represent your subject and work towards your goal. There's nothing wrong with 'found' art – R. Mutt's urinal is a famous example – but it is more than a little feeble-minded to pretend that this is (or should be) the only form of art.

The third pleasure, the pleasure of having done something, is rarely as dramatic in a photographic context as the examples already given – Russian roulette, bungee jumping or getting a law degree – but it can be invaluable in teaching us what we don't want to do and, which is at least as important, why we don't want to do it. Usually it comes down to the simple fact that the results aren't worth the effort, whether because the

effort was so great that no results could justify doing it again or because although the effort was not great, the pictures were no good or because there is something else we'd rather do. The last can be especially valuable. Sometimes we do things because we think we ought to enjoy them, even though we don't: we've been brainwashed by our schools, our family, our friends, the internet or even (let's be harsh) photo books and magazines, to say nothing of rabid consumerism. Or we've changed, but haven't realised it: as Dr Johnson put it, the young man does not care for the child's rattle, and the old man does not care for the young man's whore.

It may seem odd to be so analytical about what we like. After all, it must surely be simple enough: either we enjoy things, or we don't. Fair enough. But there's also a pleasure in thinking, especially when there's nothing else to do: when we're waiting for something, or lying awake unable to sleep, or on a dull journey. So why not think sometimes? **AP**

Roger Hicks is a much published author on photography. He has written more than three dozen books on the subject, many in partnership with his wife Frances Schultz. He has been a freelance photographer/writer since 1981, contributing to many magazines. Visit his website at www.rogerandfrances.com

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Amateur Photographer, IPC Media, Blue Fin Building,

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Marketing and promotions

Senior Marketing Manager	Estelle Hicks-Bennett	0203 148 4321
Online Manager	Karen Sheard	0203 148 4943
SPI Administrator	Nadine Thomas	0203 148 4326

Inserts Innovator Telephone 0203 148 3710

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Publishing team

Group Magazines Editor	Garry Coward-Williams
Publishing Director	Alex Robb
Managing Director	Paul Williams
Chairman and Chief Executive	Sylvia Auton

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